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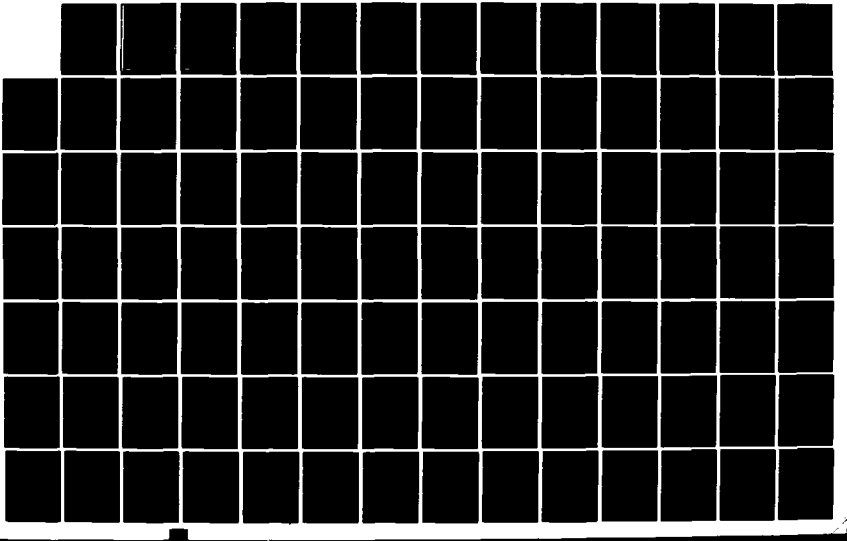

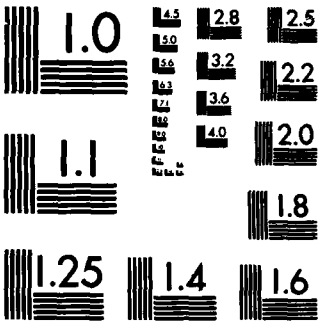

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Final Report *August 1982*

AN ANALYSIS OF NAVAL PERSONNEL RESOURCE ALLOCATIONS TO LOGISTICS

Volume I – Navy Sea-Based Personnel Resource Allocations to Logistics Functions

By: RICHARD H. MONAHAN WILLIAM SCHUBERT

Prepared for:

DAVID W. TAYLOR NAVAL SHIP
RESEARCH AND DEVELOPMENT CENTER
BETHESDA, MARYLAND 20084

CONTRACT N00167-80-C-0068

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This report is published in two volumes: Volume I - Navy Sea-Based Personnel Resource Allocations to Logistics Functions, and Volume II - Methodology for Examining Effects of Personnel Shortfalls on Navy Logistics Personnel Readiness.

The objective of the research described in this volume (Volume I) was to determine the allocation of Navy afloat personnel resources to the broad area of logistics support and also to selected subareas of logistics such
(continued)

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20 ABSTRACT (Continued)

as maintenance, own-unit support and supply. Following an introductory chapter, Chapter II presents a summary of the methodology used and the results obtained from the analysis. In Chapter III, a detailed description of the data bases used in the analysis is presented. The method used for the analysis is then discussed in Chapter IV, including summary descriptions of the computer programs developed to reduce the data bases and generate the allocation tables used for the analysis. Chapter V then presents a detailed discussion of the results of the analysis, which addresses both the entire sea-based Navy and a notional task force.

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PREFACE

This report documents the analysis and findings of a research project conducted for the David W. Taylor Naval Ship Research and Development Center (DTNSRDC), Bethesda, Maryland. The sponsor and technical monitor was M.J. Zubkoff, Code 187, of DTNSRDC. The work was performed under Contract N00167-80-C-0068.

The research was performed in the Center for Defense Analysis (CDA) of the Research and Analysis Division (RAD) of SRI International. J. Naar is Director of CDA, and D.D. Elliott is Executive Director of RAD.

R.H. Monahan was project leader and principal investigator. He was assisted by W. Schubert.

SRI extends its appreciation to personnel at the Navy Manpower and Material Analysis Center, Pacific, Captain S.J. Watlington, Commanding Officer, for their assistance in the data base development phase of this research project.

I INTRODUCTION

The objective of the research described in this report was to determine the allocation of Navy afloat personnel resources to the broad area of logistics support and also to selected subareas of logistics such as maintenance, own-unit support and supply.

In previous research conducted for the David W. Taylor Naval Ship Research and Development Center, SRI International analyzed the allocation of Navy shore-based personnel resources to logistics functions.*[1] That analysis indicated that a considerable portion of the shore-based personnel resources are allocated to the various logistics functions. This is as would be expected since the primary mission of the shore-based segment of the Navy is to support the sea-based operating forces. The research described herein complements the previous research by addressing the sea-based units of the operational Navy.

Chapter II presents a summary of the methodology used and the results obtained from the analysis. In Chapter III, a detailed description of the data bases used in the analysis is presented. The method used for the analysis is then discussed in Chapter IV, including summary descriptions of the computer programs developed to reduce the data bases and generate the allocation tables used for the analysis. Chapter V then presents a detailed discussion of the results of the analysis, which addresses both the entire sea-based Navy and a notional task force.

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* References are listed at the end of this report.

II SUMMARY

A. Data Bases

Three sea-based personnel* data bases were established for this analysis: Surface Ship Personnel Data Base, Subsurface Ship Personnel Data Base, and Aircraft Squadron Personnel Data Base. This categorization of personnel allocations was deemed appropriate from analysis of further sub-allocations of personnel activities within the major at-sea functional areas addressed in this study: Operations, Maintenance, Own-Unit Support, and Supply; the latter three of which comprise the "Designated Logistics" functional area. The analysis indicated that personnel allocations by officer designator/EP rating and pay grade were not significantly different among ship classes/aircraft squadrons within a given category, but did significantly differ between these categories (surface ships, subsurface ships, and aircraft squadrons).

The primary data sources for these data bases were the Ship Manpower Documents and the Aircraft Squadron Manpower Documents, contained in OPNAV Instructions. These documents were used to determine the numbers of officers and enlisted personnel allocated to each ship class and each aircraft squadron type in the Navy, broken down in terms of officer designators/EP ratings and pay grades. In a few cases where manpower documents were unavailable, manpower allocations were synthesized from analogous manpower documents by application of ratios of known officer and EP complements.

The summary personnel breakdowns used in this analysis are in terms of officers, petty officers, and other enlisted personnel.

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* "Sea-based personnel", as used in this report, includes all personnel allocated to active ships and aircraft squadrons within the Navy, regardless of whether or not a ship is in port or an aircraft squadron is actually land-based.

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To reduce computational complexity, without loss of significant accuracy for the purposes of this analysis, it was assumed acceptable to utilize personnel yearly billet cost data appropriately specified in these summary categories. The basic billet cost data used are specified as functions of officer designators/EP ratings and pay grades. These basic data were aggregated into the summary categories by considering the numbers of officers, segregated as to aviation officers or non-aviation officers, in each pay grade in the Navy with their associated average yearly billet costs, and the numbers of petty officers and other enlisted personnel in each pay grade with their associated yearly billet costs. The resulting average yearly billet costs used in the analysis are $40,810 for officers, $23,063 for petty officers, and $16,491 for other enlisted personnel.

B. Methodology

The personnel data bases indicate the numbers of Navy personnel, broken down in terms of officer designators/EP ratings and pay grades, allocated to each ship within a representative ship class and to each aircraft squadron within a representative aircraft squadron type. At sea, personnel are assigned to a variety of duties, some of which are not associated with their prescribed specialty. Thus, each person will spend some proportion of time in, possibly, each of the four major functional areas: operations, maintenance, own-unit support, and supply. The personnel allocations established in this analysis are in terms of personnel equivalents, as opposed to actual personnel, where one personnel equivalent represents a unity proportion of time spent by personnel in performing duties within a particular functional area. The methodology developed for this analysis is designed to accomodate the time-splitting among these functions.

The first function of the methodology was the establishment of functional profiles for each officer designator and EP rating for the three force classes (surface ships, subsurface ships, and aircraft squadrons), where a functional profile represents the proportion of time spent in each of the four functional categories

(operations, maintenance, own-unit support, and supply). In the ship and aircraft squadron manpower documents, functional workloads of personnel are specified as a function of the department to which assigned. These functional workloads are specified in terms of functional categories which differ from the four functional areas used in this analysis. The first step in the methodology development then was to establish relationships between the manpower document functional categories and the functional areas used in this analysis.

Since the actual profiles of officer designators and EP ratings aboard ship or within an operational aircraft squadron will differ somewhat, depending on the particular ship class or aircraft squadron type addressed and also (within a ship class or squadron type) on the particular department to which assigned, the objective was to establish representative profiles respectively for the broader classes of surface ships, subsurface ships and aircraft squadrons. This was accomplished by first selecting representative units among these three classes of operational forces and then selecting representative departmental assignments of officer designators and EP ratings within the representative units.

Application of this methodology then led to the establishment of representative functional profiles of the officer designators and EP ratings among the three broad classes of operational forces. These functional profiles were then consolidated into a single functional profile data base for subsequent use in this analysis.

The next function of the methodology development was to develop a computer program to be used to establish the sea-based personnel allocations to logistics functions. The resulting program, the Personnel Allocation Computer Program (PALLOC), directly generates the allocations of sea-based personnel to the three logistics functional areas (maintenance, own-unit support, and supply) and the combination of the three logistics functional areas (designated logistics), in addition to accumulating the total allocations of sea-based personnel. These allocations are

generated for each ship class (aircraft squadron) within the three operational force classes (surface ships, subsurface ships, and aircraft squadrons), in addition to the totals for each force class and the totals over all sea-based forces. These allocations are further broken down into the three personnel categories of officers, petty officers, and other enlisted personnel, in addition to total personnel per se. The program also estimates yearly billet costs associated with the force class total allocations and the overall sea-based total allocations, broken down into the three personnel categories in addition to total personnel.

The program is basically a bookkeeping operation that operates on inputs taken from the three personnel data base files, personnel cost input data, the functional profile data base, and a force structure data base which specifies the numbers of ships in a ship class and squadrons of an aircraft squadron type assumed in the force structure subjected to analysis.

The output of the program consists of four computer generated tables which provide tabulations of the personnel allocations, percentage allocations, and yearly billet cost allocations respectively to Designated Logistics Functions, Maintenance Functions, Own-Unit Support Functions, and Supply Functions. A fifth table is also generated which provides personnel allocations and yearly billet cost allocations to the total sea-based population.

C. Personnel Allocations

Personnel resource allocations were generated for two different force structures. The first set of allocations addresses the total sea-based Navy population, while the second set considers a notional task force, which consists of a conventional attack carrier task group, a nuclear attack carrier task group, an amphibious task group, and a service group.

The sea-based Navy, as derived from the data bases used in this analysis, consists of approximately 257,000 personnel with a

total yearly billet cost of about 5.7 billion dollars. This population consists of about 8% officers, 58% petty officers, and 34% other enlisted personnel. Of the total personnel in the sea-based Navy, approximately 71% are allocated to surface ships, 6% to subsurface ships, and 23% to aircraft squadrons. The major results of the analysis of the personnel resource allocations to logistics functions within the sea-based Navy are summarized as follows:

- Personnel in the sea-based Navy spend approximately 58% of their time performing logistics functions, with 27% of their time devoted to maintenance activities, 18% to own-unit support activities, and 13% to supply activities.
- The yearly billet cost associated with personnel time devoted to logistics functions is about 3.3 billion dollars, with maintenance activities consuming over 45% of this amount.
- Support ships and aircraft squadrons, by their very nature, could be considered as 100% logistics oriented. If this convention were adopted, then personnel time devoted to logistics functions would rise to 64% within the sea-based Navy.
- Officers devote approximately 57% of their time to logistics functions. This varies over force classes, however, being 55% for surface ship officers, 31% for subsurface ship officers, and 58% for aircraft squadron officers.
- Petty officers devote approximately 58% of their time to logistics functions, with the force class breakdown being 57% for surface ships, 34% for subsurface ships, and over 70% for aircraft squadrons.
- Other enlisted personnel spend approximately 59% of their time performing logistics functions. The variation over the force classes is 59% for surface ships, 34% for subsurface ships, and 63% for aircraft squadrons.

- Subsurface ships are serviced by submarine tenders and submarine repair ships, which are included in the surface ship class. If these were included with the subsurface ship class, then the time devoted to logistics functions within this class would rise to 52% as opposed to 34%.
- Personnel within aircraft squadrons, which have large maintenance complements, spend approximately 38% of their time performing maintenance functions, as compared with 24% for surface ships and 18% for subsurface ships.
- Personnel aboard subsurface ships spend less than 8% of their time performing own-unit support activities, as compared with 17% for surface ships and 24% for aircraft squadrons.
- Personnel aboard surface ships spend approximately 16% of their time in supply activities, while those aboard subsurface ships spend only about 8% of their time in supply activities. Only 4% of aircraft squadron personnel time is devoted to supply since a large portion of this activity is performed by the host aircraft carrier or Naval air station.

The notional task force used in this analysis consists of approximately 34,000 personnel, with 8% being officers, 56% being petty officers, and 36% being other enlisted personnel. Of these personnel, 32% are allocated to the conventional attack carrier task group, 34% to the nuclear attack carrier task group, 12% to the amphibious group (which does not include the Marine Corps complement), and 22% to the service group. The major findings of this portion of the analysis for the total task force pretty much parallel those for the sea-based Navy analysis. For the individual task groups, the following results are of interest:

- Personnel in each of the two conventional attack carrier task groups devote approximately 58% of their time to logistics functions, with 29% of the

time devoted to maintenance, 18% to own-unit support, and 11% to supply.

- For the amphibious task group, 57% of the personnel time is devoted to logistics functions, with 23% of the time devoted to maintenance, 17% to own-unit support, and 17% to supply.
- Personnel aboard the service group ships spend approximately 65% of their time performing logistics functions, with 27% of the time devoted to maintenance activities, 21% to own-unit support activities, and 17% to supply activities.

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III SEA-BASED PERSONNEL DATA BASES

A. Data Sources

The data contained in the Sea-Based Personnel* Data Bases used in this analysis were obtained from several sources. The primary sources were the Ship Manpower Documents and the Aircraft Squadron Manpower Documents, contained in the 5320 Series of the OPNAV Instructions.[2] These documents were used to determine the number of officers and enlisted personnel (EP) allocated to each ship class and each aircraft squadron type in the Navy, broken down in terms of officer designators/EP ratings and pay grades. These data, for the most part, were taken directly from Section VI of the appropriate manpower documents. In a few cases where manpower documents were unavailable, manpower allocations were synthesized from analagous manpower documents by application of ratios of known officer and EP complements obtained from "Jane's Fighting Ships, 1980-1981"[3]. This synthesis procedure is described in the next section of this chapter.

The personnel cost data used in this analysis were also derived from data contained in several sources. The basic yearly billet cost data were obtained from NPRDC Reports SR80-18[4] and SR80-7[5]. In order to aggregate these costs within the general categories of Officers, Petty Officers, and Other Enlisted Personnel, overall Navy and Navy aviation population data were obtained from the DoD "Selected Manpower Statics" annual publication[6], OPNAV's "Naval Aviation Summary"[7], and OPNAV's "Navy Program Factors Manual"[8]. Data from these latter two were used as

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* "Sea-based personnel" as used in this report includes all personnel allocated to active ships and aircraft squadrons within the Navy, regardless of whether or not a ship is in port or an aircraft squadron is actually land-based.

a basis for averaging officer billet costs over total aviation and non-aviation related billets. The actual procedure used is described in Section of this chapter.

B. Personnel Data Bases

Three sea-based personnel data bases were generated for the purposes of this analysis: Surface Ship Personnel Data Base, Subsurface Ship Personnel Data Base, and Aircraft Squadron Personnel Data Base. This categorization of personnel allocations was deemed appropriate from analysis of further sub-allocations of personnel activities within the four major at-sea functional areas addressed in this study: Operations, Maintenance, Own-Unit Support, and Supply, the latter three of which comprise the "Designated Logistics" functional area. The analysis indicated that personnel allocations by officer designator/EP rating and pay grade were not significantly different among ship classes/aircraft squadrons within a given category, but did significantly differ between these categories.

The personnel data base analysis originated with a visit by SRI personnel to NAVMACPAC where a complete set of ship and aircraft squadron manpower documents is maintained. The library, at the time of this visit, comprised approximately 350 manpower documents. A careful review of these documents indicated that the number of documents required, for the purposes of this study, could be reduced to 75 documents. There were several reasons manifesting this reduction. First, the selection of a typical ship within a ship class was deemed sufficient as representative of that ship class. Second, small classes of ships (e.g., the one-ship SSN-597 Tullibee class) could be assumed to be members of a larger class (e.g., the three-ship SSN-578 Skate class), to which they were judged to be analogous from the standpoint of physical configuration and personnel complement. A third reduction resulted from selecting a typical aircraft squadron type from a variety of numbered squadrons of a similar nature (e.g., Training Squadron Three (VT-3) was assumed to be a typical squadron, from a personnel viewpoint, for the total of 13 numbered

training squadron types). The fourth, and final, reduction resulted from the non-availability (at that time) of a manpower document for the specific ship class or aircraft squadron type required.

The required manpower documents were then obtained from the Naval Publications and Forms Center in Philadelphia, PA. The data from Section VI of these documents (Part 1 - Summary of Officer Manpower Requirements, and Part 2 - Summary of Enlisted Manpower Requirements) were then manually transcribed into computerized data base format and inserted, alphabetically by ship class or aircraft squadron type, into the appropriate data base file. In the few cases where manpower documents were either unavailable or not received, the manpower structures were synthesized from available manpower documents for analogous ship classes or aircraft squadron types. The synthesized manpower structures were obtained as a direct ratio of the total officer (enlisted personnel) complement for the unknown ship class (aircraft squadron type) to the total officer (enlisted personnel) complement for the analogous ship class (aircraft squadron type). The total officer and enlisted personnel complement of the unknown ship class (aircraft squadron type) were obtained from References 3 and 8. This ratio was applied to each officer designator/EP rating and pay grade, rounded off to the nearest integer. For example, the manpower structure for an LHA-1 Class Ship (Amphibious Assault Ship) was synthesized by comparison with an LPH-7 Class Ship (Amphibious Assault Ship). The officer and EP complements for the LHA-1 were obtained from Reference 3 (90 officers, 812 enlisted personnel) and the complements for the LPH-7 were taken from the ship manpower document (50 officers, 657 enlisted personnel). The officer ratio (1.80) and EP ratio (1.24) were then applied to each respective officer designator/pay grade and EP rating/pay grade of the LPH-7 to obtain the synthesized manpower structure of the LHA-1, where the resulting values were rounded off to the nearest integer. This procedure was necessary for 9 ship classes out of 58 total classes and 3 aircraft squadron types out of 22 total types.

Figures III-1 to III-3 present excerpts respectively of the Surface Ship Personnel Data Base (MDFILE), the Subsurface Ship Personnel Data Base (SSFILE), and the Aircraft Squadron Personnel Data Base (SQFILE). In respective order, these figures portray the officer and enlisted manpower allocations for the Surface Ship Class CGN-25(USS Bainbridge), the Subsurface Ship Class SSN-594(USS Permit), and the Aircraft Squadron Type VX-4(Air Test and Evaluation Squadron Four). The first record shown on each figures specifies the ship class or aircraft squadron type (Columns 1-9); the force class type (Column 10) where S = surface ship, U = subsurface ship, and A = aircraft squadron; the number of applicable officer designator entries (Columns 11-12); the number of applicable EP ratings (Columns 13-14); and the number of applicable civilian codes (Columns 15-16), which are always zero for sea-based forces. The next set of records each specify the officer designator, the numbers of officers per pay grade for that officer designator for Pay Grades 0-10 down to 0-1 and then W-4 down to W-1, and finally, the total number of officers for that officer designator. The officer designator set is terminated with an officer designator entry '0000', followed by the column totals for each pay grade and finally the total number of officers. The next set of records applies in a similar manner to EP ratings, where the pay grades range from E-9 down to E-4, Designated Striker, and then E-3 down to E-1. This set is terminated with an EP rating entry 'EEEE', which contains the column totals.

C. Personnel Costs

The summary personnel breakdowns used in this analysis are in terms of officers, petty officers, and other enlisted personnel. To reduce computational complexity, without loss of significant accuracy for the purposes of this analysis, it was assumed acceptable to utilize personnel billet cost data appropriately specified in these summary categories. The basic billet cost data contained in NPRDC Reports[4,5] are specified as functions of

CGN	25S	737	0											
1110	0	0	0	0	1	1	3	7	7	3	0	0	0	0	22
2100	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
3100	0	0	0	0	0	0	1	0	0	2	0	0	0	0	3
4100	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7430	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7540	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7660	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
0000	0	0	0	0	1	1	4	9	7	5	0	1	2	1	31
BM			0	1	0	1	3	4	0	8	0	0	17		
DK			0	0	0	1	0	1	0	0	0	0	2		
DS			0	0	1	2	2	4	0	0	0	0	9		
EM			0	1	3	7	10	14	2	1	1	0	39		
EN			0	0	0	1	1	2	0	1	1	0	6		
ET			0	2	2	7	0	0	0	0	0	0	11		
ETN			0	0	0	0	3	2	1	0	0	0	6		
ETR			0	0	0	0	16	10	0	0	0	0	26		
EW			0	0	1	1	2	3	2	0	0	0	9		
FT			1	1	0	0	0	0	0	0	0	0	2		
FTM			0	0	2	6	12	17	1	0	0	0	38		
GM			0	1	0	0	0	0	0	0	0	0	1		
GMG			0	0	0	0	1	1	0	1	0	0	3		
GMM			0	0	1	2	4	4	2	1	1	0	15		
GMT			0	0	0	1	2	3	0	0	0	0	6		
HM			0	0	1	0	1	1	1	0	0	0	4		
HT			0	0	1	2	2	3	3	2	1	0	14		
IC			0	0	1	1	2	3	1	1	0	0	9		
JO			0	0	0	0	0	1	0	0	0	0	1		
MA			0	0	1	0	0	0	0	0	0	0	1		
MM			0	1	6	16	23	30	1	9	2	0	88		
MR			0	0	0	1	0	0	0	0	0	0	1		
MS			0	1	1	3	4	6	7	0	0	0	22		
OS			1	0	2	4	9	12	12	2	1	0	43		
PC			0	0	0	0	1	0	0	0	0	0	1		
PN			0	0	1	0	1	1	1	0	0	0	4		
PO			1	0	0	0	0	0	0	0	0	0	1		
QM			0	0	1	0	1	2	1	0	0	0	5		
RM			0	1	1	3	4	7	3	0	1	0	20		
SH			0	0	0	1	2	4	3	0	0	0	10		
SK			0	1	0	1	1	2	3	1	1	0	10		
SM			0	0	0	1	1	2	2	0	0	0	6		
SN			0	0	0	0	0	0	0	37	18	0	55		
ST			0	1	0	2	0	0	0	0	0	0	3		
STG			0	0	0	0	4	6	3	0	0	0	13		
TM			0	0	0	0	1	0	0	0	0	0	1		
YN			0	1	0	1	0	3	2	0	0	0	7		
EEEE			3	12	26	65	113	148	51	64	27	0	509		

Figure III-1 SAMPLE SECTION-SURFACE SHIP PERSONNEL DATA BASE (MDFILE)

SSN	594U	317	0											
1120	0	0	0	0	0	1	2	3	4	0	0	0	0	0	10
1170	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
3100	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0000	0	0	0	0	0	1	2	3	5	1	0	0	0	0	12
EM		0	1	0	4	2	2	0	0	0	0	9			
ET		0	0	2	3	0	0	0	0	0	0	5			
ETN		0	0	0	0	2	2	1	0	0	0	5			
ETR		0	0	0	0	3	2	0	0	0	0	5			
FTG		0	0	1	1	1	1	0	0	0	0	4			
HM		0	0	1	0	0	0	0	0	0	0	1			
IC		0	0	1	2	2	2	1	0	0	0	8			
MM		0	1	2	8	10	7	1	0	0	0	29			
MS		0	0	0	1	2	2	2	0	0	0	7			
PO		1	0	0	0	0	0	0	0	0	0	1			
QM		0	0	1	1	0	2	0	0	0	0	4			
RM		0	0	1	1	1	1	0	0	0	0	4			
SK		0	0	0	1	0	0	1	0	0	0	2			
SN		0	0	0	0	0	0	0	9	0	0	9			
STS		0	1	0	3	2	3	3	0	0	0	12			
TM		0	0	1	1	1	2	1	0	0	0	6			
YN		0	0	1	0	0	1	1	0	0	0	3			
EEEE		1	3	11	26	26	27	11	9	0	0	114			

Figure III-2 SAMPLE SECTION - SUBSURFACE SHIP PERSONNEL DATA BASE (SSFILE)

VX	4A1029 0														
1000	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
1301	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
1311	0	0	0	0	0	1	7	11	0	0	0	0	0	0	19
1321	0	0	0	0	0	0	5	8	0	0	0	0	0	0	13
1520	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1630	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
2102	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
6330	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
6360	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7380	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0000	0	0	0	0	1	2	13	24	1	0	0	0	1	0	42
AD			0	1	2	5	8	8	9	0	0	0	33		
AE			0	2	1	3	6	9	6	0	0	0	27		
AF			1	0	0	0	0	0	0	0	0	0	1		
AK			0	0	0	1	3	2	1	0	0	0	7		
AM			0	1	0	0	0	0	0	0	0	0	1		
AME			0	0	0	3	2	4	4	0	0	0	13		
AMH			0	0	0	1	4	4	4	0	0	0	13		
AMS			0	0	2	4	7	10	10	0	0	0	33		
AN			0	0	0	0	0	0	0	48	0	0	48		
AO			0	0	1	3	3	5	4	0	0	0	16		
APO			1	0	0	1	5	0	0	0	0	0	7		
AQ			0	1	2	3	6	9	5	0	0	0	26		
ASE			0	0	0	0	0	0	2	0	0	0	2		
ASM			0	0	0	0	1	0	1	0	0	0	2		
AT			0	0	1	2	4	8	5	0	0	0	20		
AZ			0	0	0	2	2	2	2	0	0	0	8		
DK			0	0	0	0	1	0	0	0	0	0	1		
DM			0	0	0	0	0	1	0	0	0	0	1		
HM			0	0	0	1	0	0	0	0	0	0	1		
HN			0	0	0	0	0	0	0	2	0	0	2		
LI			0	0	0	0	0	1	0	0	0	0	1		
MS			0	0	0	0	1	1	2	0	0	0	4		
OS			0	0	1	0	0	0	0	0	0	0	1		
PH			0	0	0	0	1	0	0	0	0	0	1		
PN			0	0	0	1	1	2	2	0	0	0	6		
PO			0	0	0	2	5	1	0	0	0	0	8		
PR			0	0	0	1	1	2	2	0	0	0	6		
SN			0	0	0	0	0	0	0	2	0	0	2		
YN			0	0	1	2	1	3	6	0	0	0	13		
EEEE			2	5	11	35	62	72	65	52	0	0	304		

Figure III-3 SAMPLE SECTION-AIRCRAFT SQUADRON PERSONNEL DATA BASE (SQFILE)

officer designators/EP ratings and pay grades. The approaches used to aggregate these data for the purposes of this analysis are as follows.

For the officer category, the differentiation in pay scales between officers and non-aviation officers warranted separate consideration. Aviation officer average billet cost was computed by taking the average of billet costs for pilots (Des. 130X, 131X, 139X), flight officers (Des. 132X, 137X), and line-limited duty officers (Des. 6XXX) for each officer pay grade. Non-aviation officer average billet cost was based on surface warfare officers (Des. 111X, 116X) for each pay grade, since these billet costs represent an approximate median among all the non-aviation officer designators. To combine the two sub-categories, the numbers of aviation officers and non-aviation officers in the Navy were determined from Reference 7, and these were used to determine the respective proportion of these officer types within the Navy (.273 for aviation officers and .727 for non-aviation officers). For each pay grade, the officer average billet costs per pay grade were then obtained using the weighted averages of the above determined average billet costs for these two categories. From Reference 8, the proportion of officers in the Navy in each pay grade was then established. Using these as weighting factors, an average billet cost per officer was then obtained by taking the weighted average of the pay grade officer average billet costs.

For the enlisted personnel category, no distinction was deemed necessary between aviation and non-aviation related billets. For the respective pay grades, the billet cost data for an air controlman rating (AC) represent an approximate median for all enlisted personnel, and so these data were used as the average billet cost per pay grade for enlisted personnel. The proportion of petty officers (other enlisted personnel) in the Navy in each pay grade was then obtained from Reference 6. Using these as weighting factors, an average billet cost per petty officer (other enlisted person) was then determined by taking the weighted average of the petty officer (other enlisted person) median billet costs.

The resulting average yearly billet costs obtained for the three categories of Navy personnel are presented in Table III-1.

Table III-1

AVERAGE YEARLY BILLET COSTS

Personnel Category	Average Yearly Billet Cost
Officer	$40,810
Petty Officer	23,063
Other Enlisted	16,491

IV METHODOLOGY

A. General

The data bases described in the preceding chapter indicate the number of Navy personnel allocated to each ship within a representative ship class and to each aircraft squadron within a representative aircraft squadron type. These allocations are broken down in terms of officer designators/EP ratings and pay grades.

At sea, personnel are assigned to a variety of duties, some of which are not associated with their prescribed specialty (officer designator or EP rating). For example, an aviation electronics technician (AT) will be required to periodically stand watch, perform shipboard housekeeping, participate in combat operational readiness exercises, and do other chores, in addition to his primary duty of servicing aviation electronics equipment. Thus, such a technician will spend some proportion of time in, possibly, each of the four major functional areas: operations, maintenance, own-unit support, and supply. The personnel allocations established in this analysis are in terms of personnel equivalents, as opposed to actual personnel, where one personnel equivalent represents a unity proportion of time spent by personnel in performing duties within a particular functional area. For example, if for a particular EP rating and pay grade, a sailor spends 70 percent of his time in maintenance functions, then he would be considered as a 0.7 personnel equivalent in maintenance.

The methodology developed for this analysis then is designed to accommodate the time-splitting among these functional areas. The manner by which the functional profiles (proportion of time spent in each of the four functional categories) were determined for each officer designator and EP rating for the three force classes (surface ship, subsurface ship, aircraft squadron) is

described in the next section of this chapter. The computer program used to establish the personnel allocations to the three logistics functional areas (maintenance, own-unit support, and supply) plus the combination of the three (designated logistics) is then described in Section C of this chapter.

B. Functional Profiles by Officer Designator/EP Rating

The methodology described in this section was directed to the establishment of the proportion of time each officer designator and each EP rating in the sea-based Navy spends in performing tasks in each of the following broad functional areas:

- Operations
- Maintenance
- Own-Unit Support
- Supply

where the latter three categories comprise the broader "Designated Logistics" functional area. These functional areas are equivalent to those addressed in the previous Shore-Based Personnel Allocation Analysis[1].

In Section V of the ship and aircraft squadron manpower documents, functional workloads of personnel are specified as a function of the department to which assigned. These functional workloads are specified in terms of functional categories that differ, not only from the four functional areas used in this analysis, but also between the ship manpower documents and the aircraft squadron manpower documents. The first step in the methodology development then was to establish the relationships between the manpower document functional categories and the functional areas used in this analysis. The assumptions and procedure used to establish these relationships are described in Subsection 1 below.

Since the actual profiles of officer designators and EP ratings aboard ship or within an operational aircraft squadron differ somewhat, depending on the particular ship class or squadron type addressed and also (within a ship class or squadron type) on the particular department to which assigned, the

objective was to establish representative profiles respectively for the broader classes of surface ships, subsurface ships, and aircraft squadrons. This was accomplished by first selecting representive units among these classes of operational forces, and then selecting representative departmental assignments of officer designators/EP ratings within the representative units. The sampling procedures used are described in Subsections 2 and 3 below.

The methodology established was then used to determine the representative functional profiles for the officer designators and EP ratings among the three broad classes of operational forces. This resulted in the establishment of a Functional Profile Data Base (FAFILE) which is described in Subsection 4 below.

1. Functional Categorization Relationships

The functional categories used in the ship manpower documents are: operational manning, flight quarters, planned maintenance, corrective maintenance, facilities maintenance, own unit support, productivity allowance, service diversion allowance, training, customer support, underway replenishment, and vertical replenishment. The latter three functions pertain only to tenders, repair ships and supply ships. The definitions of these categories can be inferred from the Ship Manpower Document's Definition of Terms, which is repeated here as Table IV-1. The conversion of these categories to the primary functional areas used in this analysis (operations, maintenance, own-unit support, and supply) were made in accordance with the following assumptions:

- All operational manning and flight quarters activities were assigned to 'Operations'.

- All planned, corrective, and facilities maintenance activities were assigned to 'Maintenance'.

- All activities in the Aircraft Intermediate Maintenance Department (AIMD) were assigned to 'Maintenance'.

Table IV-1*

DEFINITION OF TERMS

A. ORGANIZATIONAL MANNING.

ORGANIZATIONAL MANNING IS THE AUTHORIZED OFFICER AND ENLISTED STRENGTH OF A FULLY READY UNIT OR ACTIVITY AS DETERMINED BY THE CHIEF OF NAVAL OPERATIONS FROM ESTABLISHED ORGANIZATIONAL MANPOWER REQUIREMENTS.

B. ORGANIZATIONAL MANPOWER REQUIREMENTS.

ORGANIZATIONAL MANPOWER REQUIREMENTS ARE THE TOTAL QUALITATIVE AND QUANTITATIVE NAVAL REQUIREMENTS ESSENTIAL TO EFFECTIVE PERFORMANCE OF THE MISSION AND REQUIRED OPERATIONAL CAPABILITIES AS PRESCRIBED BY THE CHIEF OF NAVAL OPERATIONS.

C. CONDITIONAL MANNING.

CONDITIONAL MANNING IS AN AUTHORIZED REDUCTION IN ORGANIZATIONAL MANNING RESULTING FROM OR ACCOMPLISHED BY A COMMENSURATE REDUCTION IN THE REQUIRED OPERATIONAL CAPABILITIES PRESCRIBED BY THE CHIEF OF NAVAL OPERATIONS FOR A FULLY READY SHIP.

D. OPERATIONAL MANNING.

OPERATIONAL MANNING IS THE QUALITATIVE AND QUANTITATIVE SUM OF NAVAL MANPOWER REQUIREMENTS TO MAN ESSENTIAL OPERATING STATIONS DURING A SPECIFIED CONDITION OF READINESS. THE OPERATIONAL MANPOWER REQUIREMENT FOR A CONDITION OF READINESS IS EXPRESSED IN TERMS OF THE RELATED CONDITION WATCH ORGANIZATION.

E. MAINTENANCE MANPOWER REQUIREMENTS.

MAINTENANCE MANPOWER REQUIREMENTS ARE THE QUALITATIVE AND QUANTITATIVE SUM OF NAVAL MANPOWER REQUIREMENTS TO PERFORM PLANNED, CORRECTIVE, AND FACILITY MAINTENANCE ON THE SHIP AND ITS COMPONENT SYSTEMS AND EQUIPMENTS.

F. OWN UNIT SUPPORT MANPOWER REQUIREMENTS.

OWN UNIT SUPPORT IS THE SUM OF QUALITATIVE AND QUANTITATIVE NAVAL MANPOWER REQUIREMENTS TO PERFORM ADMINISTRATIVE MILITARY, RESUPPLY, FOOD SERVICE, HYGIENIC AND OTHER SERVICE TASKS IN SUPPORT OF UNIT PERSONNEL AND EQUIPMENT.

OWN UNIT SUPPORT ALSO INCLUDES THE MANPOWER REQUIREMENTS TO PERFORM MISCELLANEOUS WORK WHICH DOES NOT FALL WITHIN THE CATEGORIES OF OPERATIONAL OR MAINTENANCE MANNING, BUT WHICH IS ESSENTIAL TO THE OPERATION OF A SHIP OR TO THE ACCOMPLISHMENT OF ITS ASSIGNED MISSION.

Table IV-1 Concluded

G. CUSTOMER SUPPORT MANPOWER REQUIREMENTS.

CUSTOMER SUPPORT IS THE QUALITATIVE AND QUANTITATIVE SUM OF NAVAL MANPOWER REQUIREMENTS TO ACCOMPLISH THE NECESSARY WORKLOAD ASSOCIATED WITH PROVIDING REPAIR AND SUPPORT SERVICES TO UNITS OF THE FLEET. THIS WORKLOAD ELEMENT IS UNIQUE TO TENDER AND REPAIR SHIPS.

H. MANPOWER FACTORS AS DEFINED AND MEASURED.

1. PRODUCTIVE ALLOWANCE FACTOR.

THE PRODUCTIVE ALLOWANCE FACTOR IS A 20 PERCENT ALLOWANCE APPLIED TO BASIC PRODUCTIVE WORK REQUIREMENTS TO REFLECT THOSE DELAYS ARISING FROM FATIGUE, ENVIRONMENTAL EFFECTS, PERSONAL NEEDS, AND UNAVOIDABLE INTERRUPTIONS WHICH SERVE TO INCREASE THE TIME REQUIRED FOR WORK ACCOMPLISHMENT.

2. SERVICE DIVERSION ALLOWANCE AND TRAINING.

(A) SERVICE DIVERSIONS ARE THOSE ACTIONS REQUIRED OF PERSONNEL BY REGULATIONS OR THE NATURE OF SHIPBOARD ROUTINE WHICH MUST BE OR ARE NORMALLY ACCOMPLISHED DURING NORMAL OFF-WATCH WORKING HOURS, AND WHICH THEREFORE DEDUCT FROM INDIVIDUAL CAPACITY TO DO PRODUCTIVE WORK. THE FOLLOWING TYPES OF ACTIVITIES ARE REPRESENTATIVE OF SERVICE DIVERSIONS: QUARTERS, INSPECTIONS, SICK CALL, PAY LINE, HAIRCUTS, BUSINESS AT THE POST OFFICE, SHIP'S STORE, PERSONNEL OFFICE, DISBURSING OFFICE, ETC.

(B) TRAINING, FOR PURPOSES OF SMD DEVELOPMENT, IS DEFINED AS ACTIVITY OF A PRACTICAL OR INSTRUCTIONAL NATURE WHICH CONTRIBUTES DIRECTLY TO COMBAT READINESS OR PERSONNEL EFFECTIVENESS, BUT WHICH OTHERWISE DETRACTS FROM INDIVIDUAL CAPACITY TO ACCOMPLISH PRODUCTIVE WORK. THREE CATEGORIES OF TRAINING ARE NORMALLY CONSIDERED:

(1) FORMAL TRAINING
(2) PROFICIENCY TRAINING
(3) DRILLS AND PRACTICES

FOR PURPOSES OF THIS DOCUMENT, THE SERVICE DIVERSION ALLOWANCE HAS BEEN COMBINED WITH TRAINING, AND ON THE BASIS OF DEVELOPED WORK SAMPLING, HAS BEEN ESTABLISHED TO BE 6.00 HOURS WEEKLY FOR NON-WATCHSTANDERS AND 4.50 HOURS WEEKLY FOR WATCHSTANDERS.

* Reprinted from OPNAV Instruction 5320.343, "Ship Manpower Document - USS Oklahoma City (CG-5)", 12 September 1978.

- Own unit support activities outside the Supply Department and Fuels Handling Unit were assigned to 'Own-Unit Support'.

- Own unit support activities within the Supply Department and Fuels Handling Unit were assigned to 'Supply'.

- The non-productive functions (productivity allowance, service diversion allowance, and training) were ignored based on the assumption that these functions support the productive functions in relative proportions.

- Customer support activities within the Maintenance Department were assigned to 'Maintenance'.

- Customer support activities within the Supply Department were assigned to 'Supply'.

- All other customer support activities (found only on tenders and repair ships) were assigned 50% to 'Maintenance' and 50% to 'Supply' on the assumption that these ships perform approximately equal services in the supply and maintenance functional areas for their operational customers.

- All underway and vertical replenishment activities were assigned to 'Supply'.

These conversion assumptions are summarized in Table IV-3 presented at the end of this subsection

The functional categories used in the aircraft squadron manpower documents are: officer manning, directed manning, preventive maintenance, corrective maintenance, administrative support, facilities maintenance, and utilities tasks. The definitions of these categories are contained in the Aircraft Squadron Manpower Document's Definitions of Organizational Manning

Requirements Terms, which is repeated here as Table IV-2. The conversion of these categories to the primary functional areas used in this analysis were made in accordance with the following assumptions:

- All officer activities in the manpower documents are combined under the single category of "officer manning". To allocate officer activities to the functional areas used in this analysis, it was assumed that each officer performs proportionately in the same functional categories as the enlisted personnel do in the organizational unit to which that officer is assigned within the squadron.

- All directed manning activities were assigned to 'Operations'.

- All activities in the Aircraft Intermediate Maintenance Department (AIMD) were assigned to 'Maintenance' (all activities in this department are combined under the single category of "Directed Manning").

- All administrative/support activities outside the Material Control Work Center were assigned to 'Own-Unit Support'.

- All administrative/support activities within the Material Control Work Center were assigned to 'Supply'.

- All enlisted personnel assigned to Integrated Services (a group of personnel assigned by their squadrons to a pool of skills to assist the host activity-Naval air station or aircraft carrier)

Table IV-2*

DEFINITIONS OF
ORGANIZATIONAL MANNING REQUIREMENT TERMS

Organizational Manning Requirements are those quantitative and qualitative manpower requirements of an aircraft squadron necessary to effectively perform the mission required operational capabilities as prescribed by the Chief of Naval Operations. Organizational Manning includes Directed Manning, Maintenance Manning, Administrative/Support Manning, Facilities Maintenance Manning and Utilities Tasks.

A. OFFICER MANNING (OM)

The quantitative and qualitative officer requirements necessary to support workload associated with administrative duties and flight operations required by ROC/POE.

B. DIRECTED MANNING (DM)

The quantitative and qualitative manpower required to time-constrained stations associated with flight operations and watches, either carrier or shore-based. A station is a specific position which must be manned for proper or effective functioning of a system, subsystem, or equipment. These stations are usually manned by plane captains, aircraft handlers, maintenance trouble-shooters, sound-powered phone talkers, security and integrity watches, and enlisted aircrewmen.

C. MAINTENANCE MANNING

The quantitative and qualitative manpower requirements necessary to support the total preventive and corrective maintenance actions performed on the aircraft and its installed systems and equipments. This includes lubrication, repair, reviewing maintenance manuals at worksite and make ready/put away and cleaning as it pertains to efficient operation of equipment; and all checks, tests, and inspections performed on the total weapons system.

1. Preventive Maintenance Manning (PM)

The quantitative and qualitative manpower requirements necessary to satisfy the workload associated with the performance of preventive maintenance on installed operational equipment components/systems that contribute to uninterrupted operation within design characteristics as prescribed by the Planned Maintenance System. Preventive Maintenance Manning is derived from preventive maintenance requirements prescribed in the Maintenance Requirement Cards (MRC).

2. Corrective Maintenance Manning (CM)

The quantitative and qualitative manpower requirements necessary to support the workload associated with the restoration of disabled installed operational equipment/systems within predetermined operational tolerances. Corrective maintenance workload for this aircraft was derived from data reported to the Maintenance Data Collection System (MDCS) for the Naval Aviation Maintenance Program.

Table IV-2 (Concluded)

D. ADMINISTRATIVE/SUPPORT (AS)

The quantitative and qualitative manpower requirements necessary for the maintenance of personnel records, preparation of correspondence, and support of command administrative functions. While administrative support tasks are performed primarily by the YN, PN, and AZ ratings, they are also required to a lesser degree in each production work center. The functions associated with supervision, maintenance administration, material control, quality assurance, data analysis, clerical work, and instructional time (including instruction while flying) will be documented as AS.

E. FACILITIES MAINTENANCE (FM)

The quantitative and qualitative manpower requirements necessary to perform routine housekeeping of assigned living, working, and operating areas. Facilities Maintenance includes policing, Foreign Object Damage (FOD) prevention, sweeping, swabbing, waxing, trash removal, and painting.

F. UTILITIES TASKS (UT)

The qualitative and quantitative manpower requirements necessary to perform miscellaneous work which does not fall within the categories of operational, maintenance, administrative, or support manning; but which is essential to the operation of the squadron or accomplishment of its assigned mission. Miscellaneous tasks not definable under any other functional category may be placed under UT; i.e., working parties.

* Reprinted from OPNAV Instruction 5320.177A, "Aircraft Squadron Manpower Document - A Six Aircraft SH-3H Squadron," 29 August 1978.

are assumed to functionally perform in the same proportions as other personnel in the squadron with the same ratings (all activities in this group are combined under the single category of "Directed Manning").

These conversion assumptions are summarized in Table IV-3.

2. Sampling of Units for Operational Force Classes

For each of the three broad classes of operational forces used in this analysis (surface ships, subsurface ships, and aircraft squadrons), two ship classes (aircraft squadron types) were selected to establish initial functional profiles for the officer designators and EP ratings. The units selected were as follows:

- Surface ships:
  - Multi-purpose aircraft carrier (CV-62)
  - Frigate (FF-1072)

- Subsurface ships
  - Ballistic Missile Submarine (SSBN-616)
  - Nuclear Powered Submarine (SSN-637)

- Aircraft Squadrons
  - Attack Squadron (A-7E)
  - Patrol Squadron (P-3B)

The basic rationale used for these selections was, first, to include two different types of units within a force class, and then to select that ship class or squadron type for the type selected that contained the most number of units in the Force Structure Data Base used for this analysis (see Section V.B for a description of this data base). For example, it was deemed appropriate to sample aircraft squadrons by selecting a combat squadron and a non-combat squadron. From the force structure data base, the light attack squadron VAL (represented by the 12 Aircraft A-7E Squadron), consisting of 28 active squadrons, and

Table IV-3

FUNCTIONAL CATEGORY CONVERSION CRITERIA

Aircraft Squadron Manpower Document Functional Categories*	SRI Functional Areas	Ship Manpower Document Functional Categories†
Directed manning Utilities tasks	Operations	Operational manning Flight quarters
Preventive maintenance Corrective maintenance Facilities maintenance All activities in the AIMD (Aircraft Intermediate Maintenance Department)	Maintenance	Planned maintenance Corrective maintenance Facilities maintenance All activities in the AIMD Customer Support (in Maintenance Department 50% Customer Support (outside the Supply and Maintenance Department
Administrative/support (outside of the Material Control Work Center)	Own-Unit Support	Own unit support (outside the Supply Department and Fuels Handling Unit)
Administrative/support (inside the Material Control Work Center)	Supply	Own unit support (inside the Supply Department and Fuels Handling Unit) 50% Customer Support (outside the Supply and Maintenance Departments) Underway replenishment Vertical replenishment

* See text for special conversion criteria for officer manning activities and Integrated Services activities .

† Non-productive functions (productivity allowance, service diversion allowance, and training) were ignored. See text for rationale.

the patrol squadron VP (represented by the 9 Aircraft P-3B Squadron), consisting of 26 active squadrons, satisfied the above criteria.

These selected units were used to establish initial lists of officer designators and EP ratings to be included in the Functional Profile Data Base for each force class. For each officer designator and EP rating contained in these lists, the sampling units for the respective force class were then used to establish the respective functional profile in accordance with the procedure described in the next subsection.

A computer program, denoted by the acronym ERRDT, was developed to ensure the completeness and consistency among the various personnel data bases used in this analysis. This programrm performs a number of separate data base checks. First it ensures that the basic personnel data bases (MDFILE, SSFILE, and SQFILE-described in Chapter III) are complete and consistent in terms of number of units, unit designations, numbers of officer designators and EP ratings for a given unit, total numbers of officer/enlisted personnel within each officer designator/EP rating for a given unit, total numbers of officers/enlisted personnel within each pay grade for a given unit, and the total numbers of officers and enlisted personnel for a given unit. It also checks to ensure that all the officer designators and EP ratings contained in the personnel data bases for a given force class are also represented in the Functional Profile Data Base (FAFILE) for that force class. This latter function was used to expand the initial lists of officer designators and EP ratings for each force class established in accordance with the discussion in the preceding paragraph. Additionally, ERRDT also checks to ensure that the proportions listed for each officer designator and EP rating sum to unity.

The ERRDT run identified not only the missing officer designators and EP ratings for each force class, but also identified those ship classes or aircraft squadron types that are assigned personnel with each missing officer designator and EP rating. These missing officer designators and EP ratings were

then added to the appropriate initial lists to establish a final list for each force class. For each of the missing items within a force class, the ship class (squadron type) that are assigned the most personnel for that officer designator or EP rating among those ship classes (squadron types) assigned those types of personnel was selected as the sole sampling unit for the establishment of the respective functional profile.

3. Sampling Within Units for Operational Force Classes

For each of the sampling units selected (two units for the initial functional profile lists and one unit for the expansions of these lists), functional profiles were determined for each officer designator and each EP rating. This was accomplished by first determining the department or division of the ship class or squadron type the specified officer designator or EP rating preponderantly resides, and then assigning to that officer designator or EP rating the respective functional profile for that organizational unit as given in the applicable manpower document. These functional profiles were derived by determining the numbers of workload hours spent in each of the manpower document categories as specified in Section V of the applicable manpower document for that organizational unit and then transforming these workload hours into workload hours spent in each of the functional areas used in this analysis, using the conversion criteria summarized in Table IV-3. These were then reduced to proportions by dividing by the total number of productive workload hours specified for the respective organizational unit.

If an officer designator or EP rating applied to only one sampling unit for the specific force class, then the respective functional profile established for that sampling unit was used as the representative functional profile for that officer designator or EP rating. Otherwise, the representative functional profile was derived as the average of the functional profiles for the two sampling units.

4. Functional Profile Data Base (FAFILE)

The methodology described in the previous three subsections was used to determine the representative functional profiles of the officer designator/EP ratings among the three classes of operational forces. These functional profiles were then consolidated into a single Functional Profile Data Base (FAFILE) for subsequent use in this analysis. This data base was designed so that each officer designator and each EP rating identified in the manpower documents has a separate entry for each force class, including an additional entry for a force class representing shore-based personnel. However, actual functional profile data is entered only for those functional profiles that were developed in accordance with the methodology described above. This data base design then allows for future expansion of this data base should the need ever arise.

Figures IV-1 and IV-2 present excerpts of this data base for officer designators and EP ratings, respectively. The first record on Fig. IV-1 (which shows the beginning of FAFILE) specifies the total number of officer designator records (Columns 1-4) and the total number of EP rating records (Columns 5-8). The remaining records shown on the figure specify, for each record, the officer designator, the force class (A-aircraft squadron, S-surface ship, U-subsurface ship, and L-land based unit), and the proportional allocations to the operations, maintenance, own-unit support, and supply functions for that officer designator and force class. Although not shown on the figure, the officer designator records are terminated with an '0000' officer designator record. The EP rating entries shown in Figure IV-2 are specified in the same manner, although terminated with an 'EEEE' EP rating record. Note that an extra set of columns is allowed for the EP rating entries because, for this analysis, designated strikers (airman (AN), fireman (FN), and seaman (SN)) were also assigned a four-digit Defense Grouping Navy Enlisted Classification in the 9000 series to identify their primary occupational areas, although none of these are included in the excerpt shown on the figure.

```
 312 564
1000A .00 .001.00 .00
1000S .00 .17 .83 .00
1000U
1000L
1050A
1050S .79 .10 .11 .00
1050U
1050L
1110A
1110S .57 .28 .15 .00
1110U
1110L
1120A
1120S .58 .23 .14 .05
1120U .76 .20 .04 .00
1120L
1140A
1140S .33 .09 .09 .49
1140U
1140L
1160A
1160S .70 .11 .19 .00
1160U
1160L
1170A
1170S
1170U .76 .20 .04 .00
1170L
1300A
1300S .70 .11 .19 .00
1300J
1300L
1301A1.00 .00 .00 .00
1301S
1301U
1301L
1302A
1302S .70 .11 .19 .00
1302U
1302L
1310A
1310S .66 .14 .03 .17
1310U
1310L
```

Figure IV-1 SAMPLE SECTION-FUNCTIONAL PROFILE DATA BASE (FAFILE) - OFFICER DESIGNATORS

AB	A	.00	.82	.18	.00
AB	S	.68	.29	.03	.00
AB	U				
AB	L				
ABE	A				
ABE	S	.68	.29	.03	.00
ABE	U				
ABE	L				
ABF	A				
ABF	S	.00	.00	.001	.00
ABF	U				
ABF	L				
ABH	A	.27	.55	.18	.00
ABH	S	.91	.04	.05	.00
ABH	U				
ABH	L				
AC	A				
AC	S	.91	.04	.05	.00
AC	U				
AC	L				
AD	A	.57	.30	.13	.00
AD	S	.001	.00	.00	.00
AD	U				
AD	L				
ADJ	A	.03	.73	.24	.00
ADJ	S				
ADJ	U				
ADJ	L				
AE	A	.15	.62	.23	.00
AE	S	.001	.00	.00	.00
AE	U				
AE	L				
AF	A	.47	.03	.00	.50
AF	S	.001	.00	.00	.00
AF	U				
AF	L				
AG	A				
AG	S	.82	.04	.10	.00
AG	U				
AG	L				
AK	A	.00	.00	.001	.00
AK	S	.00	.00	.001	.00
AK	U				
AK	L				

Figure IV-2 SAMPLE SECTION-FUNCTIONAL PROFILE DATA BASE (FAFILE) -EP RATINGS

The present data base includes four entries each (for A, S, U, and L) for 78 officer designators (312 records) and 141 EP ratings (564 records). Note, however, the functional profile voids for those entries which are not applicable for the present analysis.

C. Personnel Allocation Computer Program (PALLOC)

The Personnel Allocation Computer Program (PALLOC) developed for this analysis directly generates the allocations of sea-based personnel to the three logistics functional areas (maintenance, own-unit support, and supply) and the combination of the three functional areas (designated logistics), in addition to accumulating the total allocations of sea-based personnel. These allocations are generated for each ship class (aircraft squadron) within the three operational force classes (surface ships, subsurface ships, and aircraft squadrons), in addition to the totals for each force class and the totals over all sea-based forces. As mentioned at the beginning of this chapter, the personnel allocations (other than the total allocations of sea-based personnel) are specified in terms of personnel equivalents as opposed to actual personnel, where one personnel equivalent represents a unity proportion of time spent by personnel in performing duties within a particular functional area. These allocations are further broken down into the three personnel categories of officers, petty officers, and other enlisted personnel, in addition to total personnel per se. The program also estimates yearly billet costs asssociated with the force class total allocations and the overall sea-based total allocations, broken down into the three personnel categories in addition to total personnel.

The program is basically a bookkeeping operation that operates on inputs taken from the three personnel data base files (MDFILE, SSFILE, and SQFILE, described in Section III.B), the personnel cost input data (described in Section III.C), the functional profile data base (FAFILE, described in Section

IV.B.4), and a force structure data base which specifies the numbers of ships in a ship class and squadrons of an aircraft squadron type assumed in the force structure subjected to analysis (see Chapter V for specific examples).

The computational flow of the program begins with the surface ship force class. The required computations (described below) are performed sequentially for each ship class within this force class. These computations are made for each logistics functional area and for the total sea-based population. Also, the results of the individual logistics functional area computations are accumulated to establish the conglomerate "Designated Logistics" functional area allocations. When the computations for the surface ship force class have been completed, then computations for the subsurface ship force class are made, followed by computations for the aircraft squadron force class. Final computations are then made for the total sea-based force structure, in addition to establishing percentage allocations relating the logistics' functional allocations to total force class allocations and also to total sea-based personnel allocations.

For a particular ship class (aircraft squadron type) and logistics functional area (i.e., maintenance), the program determines the allocation of officers to that functional area by accumulating the products over all officer designators of the total number of ships (squadrons) in that ship class (aircraft squadron type) times the number of officers in that designator times the functional profile proportion for the officer designator and logistics functional area for the applicable force class. The same procedure is used for enlisted personnel, although petty officers (E-4 through E-9) and other enlisted personnel (E-1 through E-3 and designated striker) are accumulated separately. As each computation is made, the program also accumulates the totals across each ship class (aircraft squadron type) and also down each personnel category within a force class, in addition to the grand total over all force classes.

When the processing of a force class has been completed for a logistics functional area, yearly billet cost estimates are obtained, for each personnel category, by multiplying the average yearly billet cost for that category times the total number of personnel equivalents of that category allocated to the particular force class. These are then summed up to determine yearly billet cost estimates for that force class. In addition, they are accumulated for subsequent determination of the yearly billet costs of the total sea-based force for the specific logistics functional area.

The output of the program consists of four computer generated tables which provide tabulations of the personnel allocations, percentage allocations, and yearly billet cost allocations respectively to Designated Logistics Functions, Maintenance Functions, Own-Unit Support Functions, and Supply Functions. A fifth table is also generated which provides personnel allocations and yearly billet cost allocations to the total sea-based population. Examples of these computer generated tables are presented in Chapter V.

V PERSONNEL RESOURCE ALLOCATIONS

A. General

This chapter presents the results of the analysis of Navy sea-based personnel resources allocated to the logistics functional areas. While on sea-duty, personnel are assigned to a variety of duties, some of which are not associated with their prescribed specialty (officer designator or EP rating). For example, an aviation electronics technician (AT) will be required to periodically stand watch, perform shipboard housekeeping, participate in combat operational readiness exercises, and do other chores, in addition to his primary duty of servicing aviation electronics equipment. Thus, such a technician will spend some proportion of time in, possibly, each of the four major functional areas: operations, maintenance, own-unit support, and supply. The personnel allocations established in this analysis are in terms of personnel equivalents, as opposed to actual personnel, where one personnel equivalent represents a unity proportion of time spent by personnel in performing duties within a particular functional area. The allocations presented in this analysis then are established to accomodate the time-splitting among these functional areas.

There are two sets of personnel resource allocations presented in this chapter. The first set addresses the total Navy sea-based population and is discussed in Section B. The second set considers a notional task force consisting of two attack carrier task groups, an amphibious task group, and a service group. This set of allocations is discussed in Section C.

B. Sea-Based Navy

The Sea-Based Navy, defined for this analysis, includes all personnel allocated to active ships and aircraft squadrons within the Navy, regardless of whether or not a ship is in port or an aircraft squadron is actually land-based. The Navy force structure inputs were obtained from References 3 and 8. This force structure data base (FSFILE) is presented in Table V-1. These inputs are specified in terms of a typical ship from a ship class and a typical squadron from an aircraft squadron type, as discussed previously in Section III.B. For the ensuing discussion of the results obtained in this analysis, each of the force classes are broken down into a set of subclasses. These breakdowns are as follows:

- Surface Ship Subclasses
  - Support Ships (All "A" Series, except AGF)
  - Amphibious Ships (All "L" Series)
  - Combat Ships (All others, including AGF)
- Subsurface Ship Subclasses
  - Ballistic Missile Submarines (SSBN)
  - Attack Submarines (SS, SSN)
- Aircraft Squadron Subclasses
  - Helicopter Squadrons ("H" Series)
  - Fixed Wing Squadrons (All others)
  - Support Squadrons (HC, VRC, VRH, VT, VX, VXE)
  - Combat Squadrons (HH, HS, HSL, RVAH, VAL, VAM, VF, VS)
  - Reconnaissance Squadrons (HM, VAQ, VAW, VFP, VP, VQ, VWH)

The Ship Class Designations and Aircraft Squadron Designations, in relation to the character codes used in this analysis, are respectively identified in Tables V-2 and V-3.

The results of the analysis are presented by addressing, in turn, each of the five output tables generated by the PALLOC computer program.

Table V-1

NAVY FORCE STRUCTURE DATA BASE

Ship Class or Squadron Type	Number in Force
Surface Ships	
AD 14	5
AD 26	2
AD 37	3
AE 25	3
AE 29	8
AFS 4	7
AGF 3	1
AO 99	3
AOE 3	4
AOR 2	7
AR 5	4
ARS 41	8
AS 18	10
AS 31	2
ASR 7	4
ASR 21	2
ATS 2	3
AVM 1	1
CG 17	9
CG 34	9
CGN 9	1
CGN 25	1
CGN 36	3
CGN 38	3
CV 41	2
CV 62	3
CV 66	3
CV 67	1
CVN 68	3
DD 933	39
DDG 24	23
DDG 33	4
DDG 46	10
FF 1038	2
FF 1047	10
FF 1072	47
FFG 4	6
FFG 7	3
LCC 20	2
LHA 1	4
LKA 117	3

Ship Class or Squadron Type	Number in Force
Surface Ships (Continued)	
LPD 1	2
LPD 6	12
LPH 7	7
LSD 29	8
LSD 37	5
LST 1193	20
MSO 422	3
PG 92	5
Subsurface Ships	
SS 580	7
SSBN 598	4
SSBN 608	5
SSBN 616	31
SSN 578	5
SSN 585	5
SSN 594	14
SSN 637	38
SSN 688	12
Aircraft Squadrons	
HC	11
HH	1
HM 12	4
HS 1	2
HSL	8
RVAH	10
VAL	28
VAM	14
VAQ	8
VAW	14
VF 4	12
VF 14	16
VFP 63	1
VP	26
VQ 2	2
VRC 30	2
VRH	4
VS	12
VT	4
VWH	2
VX 4	2
VXE 6	1

Table V-2

SHIP CLASS DESIGNATIONS

Character Code	Designation
AD	Destroyer tender
AE	Ammunition ship
AFS	Combat stores ship
AGF	Combat ship
AO	Oiler
AOE	Fast combat support ship
AOR	Replenishment oiler
AR	Repair ship
ARS	Salvage ship
AS	Submarine tender
ASR	Submarine rescue ship
ATS	Salvage and rescue ship
AVM	Guided missile test ship
CG	Guided missile cruiser
CGN	Guided missile cruiser (nuclear)
CV	Attack aircraft carrier
CVN	Attack aircraft carrier (nuclear)
DD	Destroyer
DDG	Guided missile destroyer
FF	Frigate
FFG	Guided missile frigate
LCC	Amphibious command ship
LHA	Amphibious assault ship
LKA	Amphibious cargo ship
LPD	Amphibious transport dock
LPH	Amphibious assault ship
LSD	Dock landing ship
LST	Tank landing ship
MSO	Ocean minesweeper
PG	Patrol combatant

Table V-3

AIRCRAFT SQUADRON TYPE DESIGNATIONS*

Character Code	Designation
HC	Helicopter combat support
HH	Heavy assault helicopter
HM	Helicopter mine-countermeasures
HS	Helicopter anti-submarine
HSL	Helicopter anti-submarine (nuclear)
RVAH	Reconnaissance-attack
VAL	Light attack
VAM	Medium attack
VAQ	Tactical electronic warfare
VAW	Carrier airborne early warning
VF	Fighter
VFP	Photographic reconnaissance
VP	Patrol
VQ	Fleet air reconnaissance
VRC	Fleet tactical support, carrier
VRH	Heavy transport
VS	Carrier anti-submarine
VT	Training
VWH	Heavy AEW
VX	Air test and evaluation
VXE	Antarctic development

*First Character Designations:

V = Fixed wing (also includes RVAH)

H = Helicopter

1. Sea-Based Population (Table V-4)

The Sea-Based Population (SBP), as derived from the data bases used in this analysis, consists of 256,786 personnel with a total yearly billet cost of about 5,714 million dollars. The Sea-Based Population consists of 8.2% officers, 57.5% petty officers, and 34.3% other enlisted personnel. Of the total personnel in the SBP, 70.5% are allocated to surface ships, 6.2% to subsurface ships, and 23.3% to aircraft squadrons.

The surface ship force class consists of 181,106 personnel, of which 5.7% are officers, 57.1% are petty officers, and 37.2% are other enlisted personnel. Of these, 29.7% are allocated to support ships, 14.7% to amphibious ships, and the remaining 55.6% to combat ships.

The subsurface ship force class consists of 15,956 personnel of which 9.2% are officers, 75.0% are petty officers, and 15.8% are other enlisted personnel. Thus, for this force class, personnel allocations are more concentrated on the higher pay grades (officers and petty officers) than is the case for the surface ship force class. Of the subsurface ship force class, 37.6% of the personnel are allocated to ballistic missile submarines and the other 62.4% to attack submarines.

For the aircraft squadron force class, consisting of 59,724 personnel, 15.4% are officers, 54.0% are petty officers, and 30.6% are other enlisted personnel. Of the three force classes assumed in this analysis, the aircraft squadron force class has the highest proportion of officers (within its force class) and the lowest proportion of petty officers than do the other two force classes, with the proportion of other enlisted personnel falling between that of the other two force classes. For the aircraft squadron force class, 90.8% of the personnel are allocated to fixed-wing squadrons and 9.2% to helicopter squadrons. In terms of squadron functions, 9.7% of the total personnel are allocated to support squadrons, 57.9% to combat squadrons, and 32.4% to reconnaissance squadrons.

Table V-4

SEA-BASED POPULATION

SURFACE SHIP CLASS		OFFICERS	PETTY OFFICERS	OTHER ENLISTED	TOTALS
AD	14	360	4240	1515	6115
AD	26	110	1234	428	1772
AD	37	423	3621	1311	5355
AE	25	51	525	603	1179
AE	29	136	1472	1688	3296
AFS	4	168	1484	1358	3010
AOF	3	23	241	191	455
AO	99	60	474	579	1113
AOE	3	92	1100	1244	2436
AOR	2	133	1407	1582	3122
AR	5	272	3720	1328	5320
ARS	41	48	504	312	864
AS	18	730	9050	3230	13010
AS	31	292	3584	1284	5160
ASR	7	24	272	156	452
ASR	21	18	274	166	458
ATS	2	21	222	153	396
AVM	1	89	452	246	787
CG	17	216	2502	1431	4149
CG	34	243	2619	1530	4392
CGN	9	80	746	325	1151
CGN	25	31	367	142	540
CGN	36	87	1110	483	1680
CGN	38	87	1131	426	1644
CV	41	252	2582	2154	4988
CV	62	456	4509	4077	9042
CV	66	465	4590	4263	9318
CV	67	147	1508	1427	3082
CVN	68	450	4962	4008	9420
DD	933	819	8073	4875	13767
DDG	24	506	5612	3082	9200
DDG	33	80	932	512	1524
DDG	46	260	2770	1580	4610
FF	1038	30	336	234	600
FF	1047	200	1830	1390	3420
FF	1072	846	8319	5499	14664
FFG	4	102	1176	702	1980
FFG	7	36	381	159	576
LCC	20	88	920	656	1664
LHA	1	388	1660	1452	3500
LHA	117	75	510	471	1056
LPD	1	58	398	378	834
LPD	6	336	2412	2184	4932
LPH	7	350	2506	2093	4949

Table V-4 Continued

	OFFICERS	PETTY OFFICERS	OTHER ENLISTED	TOTALS
SURFACE SHIP CLASS (CONTINUED)				
LSD 29	160	1376	1216	2752
LSD 37	105	925	745	1775
LST 1193	240	2520	2400	5160
MSO 422	21	156	75	252
PG 92	20	140	25	185
SURFACE SHIP TOTAL	10284	103454	67368	181106
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	419690.1	2385959.5	1110965.6	3916615.3
SUBSURFACE SHIP CLASS				
SS 580	56	420	119	595
SSBN 598	52	456	92	600
SSBN 608	65	575	110	750
SSBN 616	403	3565	682	4650
SSN 578	65	460	105	630
SSN 585	55	445	95	595
SSN 594	168	1316	280	1764
SSN 637	456	3572	760	4788
SSN 688	144	1164	276	1584
SUBSURFACE SHIP TOTAL	1464	11973	2519	15956
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	59745.8	276133.3	41540.8	377420.0

Table V-4 Concluded

AIR SQUADRON CLASS		OFFICERS	PETTY OFFICERS	OTHER ENLISTED	TOTALS
HC		297	1100	726	2123
HH		75	210	110	395
HM	12	108	664	344	1116
HS	1	96	354	202	652
HSL		320	648	232	1200
KVAH		170	1320	500	1990
VAL		672	4704	2884	8260
VAW		980	3514	2422	6916
VAQ		216	920	472	1608
VAW		392	1274	686	2352
VF	4	900	3384	2160	6444
VF	14	640	2656	1504	4800
VFP	63	35	155	110	300
VP		2106	5798	2912	10816
VQ	2	196	592	302	1090
VRC	30	80	260	178	518
VRH		240	832	416	1488
VS		756	2028	1140	3924
VT		420	72	80	572
VXH		338	1160	568	2066
VX	4	84	374	234	692
VXE	6	59	225	118	402
AIR SQUADRON TOTAL		9180	32244	18300	59724
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		374635.8	743643.4	301785.3	1420064.5
SEA-BASED TOTAL		20928	147671	88187	256786
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		854071.7	3405736.3	1454291.8	5714100.0

2. Designated Logistics Functions (Table V-5)

The Designated Logistics Functions (DLF), as defined in this analysis, represent the combination of the maintenance, own-unit support, and supply functions performed aboard ship or within aircraft squadrons. The total number of personnel equivalents allocated to DLF in the sea-based Navy is approximately 149,100, which represents 58.1% of the SBP. This implies that personnel within the sea-based Navy spend approximately 58% of their time performing logistics functions. On a yearly billet cost basis, this percentage also holds true, where the yearly billet cost associated with the designated logistics functions is about 3,297 million dollars.

In the previous Shore-Based Personnel Resource Allocation Analysis [1], the results indicated that approximately 78% of all shore-based personnel are allocated billets in the logistics support areas. When students and uncoded personnel are excluded from the shore-based population, this percentage rises to 95%. This larger personnel allocation to logistics functions is as would be expected since the primary mission of the shore-based segment of the Navy is to support the sea-based operational forces.

The percentage breakdown of time spent in performing logistics functions for officers, petty officers, and other enlisted personnel relative to the SBP do not significantly differ, being 54.2% for officers, 57.9% for petty officers and 59.3% for other enlisted personnel. However, there is a significant difference across the three force classes assumed in this analysis, where the percentages of total personnel equivalents allocated to logistics are 57.6% for surface ships, 33.5% for the subsurface ships, and 66.0% for the aircraft squadrons. The low percentage for the subsurface ship force class is partly due to the fact that these submarines are serviced by submarine tenders (AS) and submarine rescue ships (ASR). Note from Table V-3 that 19,080 personnel are allocated to these latter ship classes, which is more than the 15,956 personnel allocated to all the submarines.

For the surface ship force class, the percentage breakdown of time spent in performing logistics functions for officers, petty officers, and other enlisted personnel do not significantly differ, being 54.6% for officers, 56.9% for petty officers, and 59.3% for other enlisted personnel. Within this force class, personnel aboard support ships spend 65.8% of their time performing logistics functions.* For specific ship classes, this percentage ranges from a low of 49.1% for the guided missile test ship class (AVM-1) to 71.3% for the submarine rescue ship class (ASR-7). Excluding the one guided missile test ship, the lower bound on this percentage would rise to 56.9% for the oiler class (AO-99). For amphibious ships, the percentage of personnel time devoted to logistics functions is 60.3%, with a lower bound of 57.4% for the amphibious command ship class (LCC-20) and an upper bound of 66.6% for the tank landing ship class (LST-1193). For combat ships, the average drops to 52.6%, with a lower bound of 48.4% for the guided missile cruiser ship class (CG-17) and an upper bound of 61.0% for the patrol combatant class (PG-92) If the patrol combatant class and the ocean minesweeper class (MSO-422) were excluded, the upper bound would drop to 56.0% for the nuclear attack aircraft carrier class (CVN-68).

For the subsurface ship force class, the percentage breakdown of time spent in performing logistics functions for officers, petty officers, and other enlisted personnel do not significantly differ, being 31.1% for officers, 33.6% for petty officers, and 34.3% for other enlisted personnel. Within this force class, personnel aboard ballistic missile submarines spend 32.1% of their time performing logistics functions. For the

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* Support ships and support aircraft squadrons, by their very nature, could well be assigned as 100% logistics oriented. If this convention were adopted, then the percentage of personnel time allocated to logistics functions for surface ships would rise to 67.8% (from 57.6%) and for aircraft squadrons to 69.7% (from 66.0%). The subsurface ship force class percentage would not change. The percentage of the total sea-based population would, under this convention, rise to 64.0% (from 58.1%).

attack submarines, the percent of personnel time devoted to logistics functions is 34.3%. For this force class, there is only a minor variation of these percentages over the different ship classes.

For the aircraft squadron force class, the percentage breakdown of time spent in performing logistics functions for officers, petty officers, and other enlisted personnel do significantly differ, being 57.5% for officers, 70.1% for petty officers, and 62.8% of other enlisted personnel. This can be expected since the high majority of the officers in a squadron are flying officers, while the high allocation of personnel to maintenance functions and the requirements for highly skilled maintenance personnel in this area imply a higher percentage of petty officers than usual. Within this force class, personnel allocated to helicopter squadrons spend 59.3% of their time performing logistics functions. For specific squadron types, this percentage ranges from a low of 56.4% for the helicopter anti-submarine squadrons (HS-1) to a high of 65.1% for the helicopter mine-countermeasure squadrons (HM-12). For fixed-wing squadrons, the percent of personnel time devoted to logistics functions is 66.6%, with a lower bound of 61.2% for the patrol squadrons (VP) and an upper bound of 76.9% for the reconnaissance-attack squadrons (RVAH).

For the functionally-oriented breakdown of aircraft squadrons, personnel allocated to support squadrons spend 61.4% of their time performing logistics functions. For specific squadron types, the percentage ranges from a low of 56.7% for the helicopter combat support squadrons (HC) to 68.9% for the air test and evaluation squadrons (VX-4). For combat squadrons, the percent of personnel devoted to logistics functions is 67.7%, with a lower bound of 56.4% for the helicopter anti-submarine squadrons (HS-1) to 76.9% for the reconnaissance-attack squadrons (RVAH). For reconnaissance squadrons, the average percentage is 64.1%, with a low of 61.2% for the patrol squadrons (VP) and a high of 71.8% for the tactical electronic warfare squadrons (VAQ).

Table V-5

SEA-BASED PERSONNEL RESOURCE ALLOCATIONS

DESIGNATED LOGISTIC FUNCTIONS

SURFACE SHIP CLASS	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
AD 14	231.8	2880.4	1070.4	4182.6	68.4
AD 26	72.1	840.9	301.3	1214.3	68.5
AD 37	273.5	2443.1	922.7	3639.4	68.0
AE 25	29.4	300.5	369.3	699.2	59.3
AE 29	76.1	832.5	1022.7	1931.3	58.6
AFS 4	110.0	952.6	919.0	1981.6	65.8
AGF 3	13.1	129.5	128.1	270.7	59.5
AO 99	30.6	264.5	338.4	633.5	56.9
AOE 3	55.6	613.3	779.0	1447.9	59.4
AOR 2	75.0	818.4	987.2	1880.6	60.2
AR 5	178.4	2511.3	931.8	3621.6	68.1
ARS 41	23.4	317.0	218.1	558.6	64.6
AS 18	465.7	6128.4	2271.2	8865.3	68.1
AS 31	186.3	2429.8	902.5	3518.6	68.2
ASR 7	12.9	171.7	107.2	291.8	64.6
ASR 21	11.5	193.0	122.1	326.6	71.3
ATS 2	10.6	152.9	110.1	273.6	69.1
AVM 1	43.2	203.3	139.7	386.2	49.1
CG 17	103.8	1098.4	805.5	2007.6	48.4
CG 34	115.4	1240.6	866.1	2222.0	50.6
CGN 9	38.9	352.7	207.0	598.6	52.0
CGN 25	17.6	165.1	99.8	282.5	52.3
CGN 36	42.5	526.0	307.7	876.3	52.2
CGN 38	44.2	572.5	268.9	885.6	53.9
CV 41	131.4	1465.6	1138.8	2735.8	54.8
CV 62	231.3	2577.2	2093.3	4901.8	54.2
CV 66	234.6	2617.0	2179.4	5031.0	54.0
CV 67	73.4	859.0	730.2	1662.6	53.9
CVN 68	222.2	2694.9	2160.4	5277.5	56.0
DD 953	414.2	3930.7	2750.7	7101.5	51.6
DDG 24	254.2	2641.6	1757.4	4653.1	50.6
DDG 33	41.8	439.2	298.2	779.2	51.1
DDG 46	125.4	1300.3	879.6	2305.3	50.0
FF 1038	15.0	162.8	126.5	304.3	50.7
FF 1047	100.9	924.1	792.6	1817.6	53.1
FF 1072	439.9	4179.7	2986.9	7606.5	51.9
FFG 4	51.8	533.1	411.6	996.5	50.3
FFG 7	16.8	202.3	95.8	314.8	54.7
LCC 20	45.4	514.3	395.9	955.6	57.4
LHA 1	218.0	983.9	820.7	2022.6	57.8
LKA 117	38.9	299.8	297.9	636.5	60.3
LPD 1	34.3	221.6	236.2	492.1	59.0
LPD 6	193.8	1393.2	1370.8	2957.8	60.0
LPH 7	195.2	1497.6	1192.2	2885.1	58.3

Table V-5 Continued

	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
SURFACE SHIP CLASS (CONTINUED)					
LSD 29	86.3	776.8	768.2	1631.3	59.3
LSD 37	54.3	529.0	457.1	1040.3	58.6
LST 1193	114.4	1598.4	1725.8	3438.6	66.6
MSO 422	9.0	92.7	43.2	145.0	57.5
PG 92	8.6	85.5	18.8	112.9	61.0
SURFACE SHIP TOTAL	5612.7	58864.5	39923.7	104400.9	57.6
PERCENT OF SURFACE POPULATION	54.6	56.9	59.3	57.6	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	229054.7	1357591.1	658382.1	2245028.0	
SUBSURFACE SHIP CLASS					
SS 580	13.4	154.8	38.2	206.4	34.7
SSBN 598	17.6	145.2	29.7	192.5	32.1
SSBN 608	22.1	183.6	35.1	240.7	32.1
SSBN 616	136.7	1138.0	217.3	1492.0	32.1
SSN 578	19.4	159.4	40.2	219.0	34.8
SSN 585	13.2	155.6	32.3	201.2	33.8
SSN 594	51.0	452.8	100.5	604.2	34.3
SSN 637	138.3	1220.9	272.8	1640.1	34.3
SSN 688	43.7	399.4	98.6	541.7	34.2
SUBSURFACE SHIP TOTAL	455.4	4017.6	864.8	5337.8	33.5
PERCENT OF SUBSURFACE POPULATION	31.1	33.6	34.3	33.5	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	16584.9	92657.9	14261.1	125503.9	

Table V-5 Concluded

AIR SQUADRON CLASS	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
HC	161.5	667.3	375.8	1204.5	56.7
HH	46.1	139.3	69.8	255.2	64.6
HM 12	65.7	443.3	217.1	726.2	65.1
HS 1	56.0	188.6	122.8	367.5	56.4
HSL	172.8	403.4	125.2	701.4	58.5
RVAH	84.0	1093.5	353.0	1530.5	76.9
VAL	395.1	3451.6	1778.0	5624.6	68.1
VAM	584.1	2448.3	1579.1	4611.5	66.7
VAQ	122.8	729.3	301.7	1153.8	71.8
VAW	221.1	988.7	429.1	1638.8	69.7
VF 4	536.5	2375.3	1464.4	4375.2	67.9
VF 14	362.1	1940.3	932.2	3234.6	67.4
VFP 63	18.5	119.5	71.5	209.4	69.8
VP	1217.1	3685.2	1720.4	6622.7	61.2
VQ 2	117.1	453.9	209.0	779.9	71.6
VRC 30	45.2	178.5	113.2	337.0	65.1
VRH	141.2	535.4	245.8	922.3	62.0
VS	422.8	1538.5	763.0	2724.2	69.4
VT	228.6	61.0	61.1	350.8	61.3
VWH	195.3	741.9	336.3	1273.5	61.6
VX 4	50.3	275.8	150.6	476.7	68.9
VXE 6	32.1	156.1	77.9	268.2	66.7
AIR SQUADRON TOTAL	5275.9	22616.8	11495.8	39388.5	66.0
PERCENT OF AIR SQUADRON POPULATION	57.5	70.1	62.8	66.0	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	215307.9	521611.5	189577.9	926497.3	
SEA-BASED TOTAL	11344.0	85493.9	52284.4	149127.2	58.1
PERCENT OF ENTIRE SEA-BASED POPULATION	54.2	57.9	59.3	58.1	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	462947.4	1971860.5	862221.2	3297029.3	

3. Maintenance Functions (Table V-6)

The total number of personnel equivalents allocated to Maintenance Functions in the sea-based Navy is approximately 69,100, which represents 26.9% of the SBP and 46.3% of DLF. Thus, within the sea-based Navy, maintenance activities account for over one-fourth of the time spent in logistics activities. On a yearly billet cost basis, these percentages also hold true, where the yearly billet cost associated with maintenance functions is about 1,506 million dollars.

Overall, officers spend less proportionate time in maintenance activities (17.6%) than do either the petty officers (28.6%) or the other enlisted personnel (26.3%). This overall differentiation is due primarily to the aircraft squadrons, where the percent of time in performing maintenance functions is only 11.0% for officers as compared to 43.7% for petty officers and 41.2% for other enlisted personnel. As mentioned in the previous sub-section, the majority of officers allocated to a squadron are pilots and flight officers, while each squadron has a large complement assigned to maintenance, which consists mainly of petty officers and other enlisted personnel. For the surface ship force class, the percentages are quite similar, being 23.5% for officers, 24.9% for petty officers, and 22.7% for other enlisted personnel. Within the subsurface ship force class, officers and petty officers spend approximately the same percentage of their time performing logistics functions (18.0% for officers and 19.5% for petty officers), while the other enlisted personnel spend somewhat less time performing these functions (11.8%).

The time spent by personnel performing maintenance functions differs significantly across the three force classes, being 24.0% for surface ships, 18.2% for subsurface ships, and 37.9% for aircraft squadrons. If submarine tenders (AS) and submarine rescue ships (ASR) are included with the subsurface ship force class, then its percentage would rise to 24.6%, which puts it on a par with the surface ship force class. The higher

percentage for the aircraft squadrons is as would be expected since each aircraft squadron, with the exception of training squadrons (VT), has a comparatively large maintenance complement.

For the surface ship force class, personnel aboard support ships spend 28.3% of their time performing maintenance functions. For specific ship classes, this percentage ranges from a low of 20.3% for the combat stores ship class (AFS-4) to a high of 30.3% for the repair ship class (AR-5). For amphibious ships, the percent of personnel time devoted to maintenance functions is 22.1%, with a lower bound of 16.5% for the amphibious command ship class (LCC-20) and an upper bound of 24.4% for the tank landing ship class (LST-1193). For combat ships, the average is 22.3%, with a lower bound of 18.5% for the nuclear guided missile cruiser ship class (CGN-25) and an upper bound of 28.3% for the patrol combatant ship class (PG-92). If the patrol combatant class and the ocean minesweeper class (MSO-422) were excluded, the upper bound would drop to 24.0% for both the destroyer ship class (DD-933) and the frigate ship class (FF-1047).

For the subsurface ship force class, personnel aboard ballistic missile submarines spend 16.9% of their time performing maintenance functions. For the attack submarines, the percent of personnel time devoted to maintenance functions is 18.9%, with only minor variations over the different ship classes.

Within the aircraft squadron force class, personnel allocated to helicopter squadrons spend 33.6% of their time performing maintenance functions. For specific squadron types, this percentage ranges from a low of 30.6% for the helicopter anti-submarine squadrons (HS-1) to a high of 37.1% for the helicopter mine-countermeasure squadrons (HM-12). For fixed-wing squadrons, the percent of personnel time devoted to maintenance functions is 38.4%, with a lower bound of 33.5% for the patrol squadrons (VP) and an upper bound of 48.8% for the reconnaissance-attack squadrons (RVAH).

For the functionally-oriented breakdown of aircraft squadrons, personnel allocated to support squadrons spend 31.5% of their time performing maintenance functions. For specific

squadron types, the percentage ranges from a low of 10.2% for the training squadrons to a high of 39.0% for the air test and evaluation squadrons (VX-4). If the training squadrons, which only have small maintenance complements, are excluded, the lower bound rises to 30.9% for the helicopter combat support squadrons (HC). For combat squadrons, the percent of personnel devoted to maintenance functions is 40.1%, with a lower bound of 30.6% for the helicopter anti-submarine squadrons (HS-1) and an upper bound of 48.8% for the reconnaissance-attack squadrons (RVAH). For reconnaissance squadrons, the average percentage is 35.9%, with a low of 33.5% for the patrol squadrons (VP) and a high of 44.7% for the photographic reconnaissance squadrons (VFP-63).

Table V-6

SEA-BASED PERSONNEL RESOURCE ALLOCATIONS

MAINTENANCE FUNCTIONS

SURFACE SHIP CLASS	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
AD 14	96.5	1326.5	415.0	1838.1	30.1
AD 26	32.1	383.6	117.5	533.1	30.1
AD 37	114.4	1140.9	361.6	1616.8	30.2
AE 25	11.0	116.4	182.5	310.0	26.3
AE 29	33.2	226.6	513.4	868.3	26.3
AFS 4	28.4	261.8	319.7	609.9	20.3
AGF 3	5.5	48.6	36.9	91.0	20.0
AO 99	13.3	93.9	165.2	272.4	24.5
AOE 3	17.1	232.9	358.8	608.8	25.0
AOR 2	28.1	298.2	447.4	773.7	24.8
AR 5	74.8	1167.5	367.6	1609.9	30.3
AHS 41	14.2	129.7	83.8	227.8	26.4
AS 18	194.1	2833.7	890.8	3918.6	30.1
AS 31	77.6	1121.6	353.9	1553.1	30.1
ASR 7	9.7	70.5	42.4	122.5	27.1
ASR 21	6.0	66.4	38.3	110.6	24.2
ATS 2	5.0	56.3	41.2	102.5	25.9
AVM 1	20.0	88.0	53.6	161.7	20.5
CG 17	49.1	489.0	316.0	854.1	20.6
CG 34	56.7	556.4	345.9	959.0	21.8
CGN 9	18.2	159.4	54.6	232.2	20.2
CGN 25	8.0	77.0	14.6	99.6	18.5
CGN 36	19.9	237.2	81.4	338.4	20.1
CGN 38	19.6	265.1	84.8	369.5	22.5
CV 41	54.0	679.9	383.4	1117.3	22.4
CV 62	90.7	1172.3	707.6	1970.5	21.8
CV 66	93.8	1186.7	778.4	2059.0	22.1
CV 67	30.2	390.8	258.1	678.9	22.0
CVN 68	91.3	1330.7	675.1	2097.1	22.3
DD 933	196.2	1898.8	1212.1	3306.8	24.0
DDG 24	122.1	1228.4	679.9	2030.4	22.1
DDG 33	20.2	201.1	112.4	333.8	21.9
DDG 46	62.3	592.2	354.0	1008.5	21.9
FF 1038	7.6	71.2	58.9	137.7	22.9
FF 1047	47.6	395.8	376.7	820.1	24.0
FF 1072	205.4	1794.9	1278.4	3278.7	22.4
FFG 4	23.5	232.0	137.2	392.7	19.8
FFG 7	8.6	75.5	26.3	110.4	19.2
LCC 20	16.5	148.1	109.1	273.7	16.5
LHA 1	81.7	369.5	271.8	723.0	20.7
LKA 117	17.3	109.1	128.5	254.9	24.1
LPD 1	13.1	81.7	86.2	181.0	21.7
LPD 6	72.2	522.5	487.9	1082.6	22.0
LPH 7	74.4	571.8	392.7	1038.9	21.0

Table V-6 Continued

	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
SURFACE SHIP CLASS (CONTINUED)					
LSD 29	38.1	302.5	306.4	647.0	23.5
LSD 37	25.3	205.0	182.6	412.9	23.3
LST 1193	60.8	597.0	602.2	1260.0	24.4
MSO 422	5.9	38.2	17.9	62.0	24.6
PG 92	5.6	39.9	6.9	52.4	20.3
SURFACE SHIP TOTAL	2412.1	25782.2	15317.6	43511.8	24.0
PERCENT OF SURFACE POPULATION	23.5	24.9	22.7	24.0	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	98435.8	594613.9	252603.1	945652.8	
SUBSURFACE SHIP CLASS					
SS 540	11.2	85.0	15.4	111.6	18.8
SSBN 598	8.9	81.0	11.6	101.5	16.9
SSBN 608	11.1	103.1	12.8	126.9	16.9
SSBN 616	68.8	638.9	79.1	786.8	16.9
SSN 578	12.0	94.4	14.8	121.2	19.2
SSN 585	11.0	91.1	10.3	112.3	18.9
SSN 594	30.8	270.3	31.5	332.6	18.9
SSN 637	83.6	733.8	85.5	902.9	18.9
SSN 688	26.4	238.9	36.2	301.6	19.0
SUBSURFACE SHIP TOTAL	263.8	2336.5	297.1	2897.4	18.2
PERCENT OF SUBSURFACE POPULATION	18.0	19.5	11.8	18.2	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	10765.7	53887.2	4899.3	69552.1	

Table V-6 Concluded

AIR SQUADRON CLASS		OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
HC		28.6	362.5	264.0	655.1	30.9
HH		6.4	83.3	44.7	134.3	34.0
HM	12	9.3	263.3	141.5	414.1	37.1
HS	1	9.5	105.9	84.1	199.5	30.6
HSL		28.8	319.6	92.4	440.8	36.7
RVAH		18.8	718.9	232.5	970.2	48.8
VAL		109.8	2158.5	1192.8	3461.1	41.9
VAW		102.1	1475.2	1070.6	2647.8	38.3
VAQ		23.9	467.0	206.6	697.4	43.4
VAW		49.6	594.4	290.1	934.1	39.7
VF	4	100.9	1471.8	960.8	2533.6	39.3
VF	14	77.6	1202.7	623.8	1904.2	39.7
VFP	63	2.9	77.0	54.2	134.0	44.7
VP		221.0	2322.8	1079.5	3623.4	33.8
VQ	2	20.4	284.6	135.9	440.9	40.4
VRC	30	7.2	108.0	74.2	189.4	36.6
VRH		26.5	332.0	150.3	508.8	34.2
VS		78.5	1014.7	489.0	1582.2	40.3
VT		37.4	15.6	5.1	58.2	10.2
VWH		35.3	463.0	210.4	708.7	34.3
VX	4	9.8	166.2	93.9	269.9	39.0
VXE	6	5.4	91.8	47.5	144.6	36.0
AIR SQUADRON TOTAL		1009.5	14098.7	7543.6	22651.9	37.9
PERCENT OF AIR SQUADRON POPULATION		11.0	43.7	41.2	37.9	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		41199.3	325159.2	124402.0	490760.6	
SEA-BASED TOTAL		3685.4	42217.4	23158.4	69061.2	26.9
PERCENT OF ENTIRE SEA-BASED POPULATION		17.6	28.6	26.3	25.9	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		150400.8	973660.3	381904.4	1505965.5	

4. Own-Unit Support Functions (Table V-7)

The total number of personnel equivalents allocated to Own-Unit Support functions in the sea-based Navy is approximately 47,000, which represents 18.3% of the SBP and 31.5% of the DLF. Thus, within the sea-based Navy, own-unit support activities (which includes administrative functions) account for slightly less than one-fifth of the time spent by personnel, and almost one-third of their time spent in logistics activities. On a yearly billet cost basis, these percentages are only slightly higher (because of more officer activity than enlisted), where the billet cost associated with own-unit support functions is approximately 1,109 million dollars.

Overall, officers spend more proportionate time in own-unit support functions (30.1%) than do either petty officers (18.6%) or the other enlisted personnel (15.1%). This is due primarily to the aircraft squadrons, where the percent of time in performing own-unit support functions is 45.7% for officers, as compared to only 21.7% for petty officers, and 17.8% for other enlisted personnel. For the surface ship force class, the percentages are quite similar for officers and petty officers, but slightly lower for other enlisted personnel, being 19.5% for officers, 18.9% for petty officers, and 14.6% for other enlisted personnel. Within the subsurface ship force class, the trend is just the opposite, with officers spending only 5.6% of their time performing own-unit support functions, as compared with 7.4% for petty officers and 10.0% for other enlisted personnel.

The time spent by personnel performing own-unit support functions differs significantly across the three force classes; being 17.3% for surface ships, 7.6% for subsurface ships, and 24.2% for aircraft squadrons. If submarine tenders (AS) and submarine rescue ships (ASR) are included in the subsurface ship force class, then its percentage would rise to 16.7%, which would bring it more in line with the surface ship force class.

For the surface ship force class, personnel aboard support ships spend 22.1% of their time performing own-unit support functions. For specific ship classes, this percentage ranges from a low of 15.1% for the guided missile test ship (AVM-1) to a high of 29.5% for the submarine rescue ship class (ASR-21). For amphibious ships, the percent of personnel time devoted to own-unit support functions is 16.7%, with a lower bound of 14.9% for the amphibious assault ship class (LHA-1) and an upper bound of 22.8% for the tank landing ship class (LST-1193). For combat ships, the average is 15.0%, with a lower bound of 13.3% for two attack aircraft carrier classes (CV-66 and CV-67) and an upper bound of 23.0% for the patrol combatant class (PG-92). If the patrol combatant class and the ocean minesweeper class (MSO-422) are excluded, the upper bound would drop to 17.8% for the command ship class (AGF-3).

For the subsurface ship force class, personnel aboard ballistic missile submarines spend 7.8% of their time performing own-unit support functions. For the attack submarines, the percent of personnel time devoted to own-unit support functions is 7.5%, with only minor variations over the different ship classes.

Within the aircraft squadron force class, personnel allocated to helicopter squadrons spend 22.2% of their time performing own-unit support functions. For specific squadron types, this percentage ranges from a low of 20.7% for the helicopter combat support squadrons (HC) to a high of 25.8% for the heavy assault helicopter squadrons (HH). For fixed-wing squadrons, the percent of personnel time devoted to own-unit support functions is 24.4%, with a lower bound of 21.1% for the photographic reconnaissance squadrons (VFP-63) and an upper bound of 50.5% for the training squadrons (VT). If the training squadrons are excluded, this upper bound drops to 26.8% for the fleet air reconnaissance squadrons (VQ-2).

For the functionally-oriented breakdown of aircraft squadrons, personnel allocated to support squadrons spend 25.4% of their time performing own-unit support functions. For specific

squadron types, the percentage ranges from a low of 20.7% for the helicopter combat support squadrons (HC) to a high of 50.5% for the training squadrons. Excluding the training squadrons, this upper bound drops to 26.1% for the air test and evaluation squadrons (VX-4). For combat squadrons, the percent of personnel time devoted to own-unit support functions is 24.4%, with a lower bound of 21.4% for the light attack squadrons (VAL) and an upper bound of 26.9% for the medium attack squadrons (VAM). For reconnaissance squadrons, the average percentage is 23.3%, with a low of 21.1% for the photographic reconnaissance squadrons (VFP-63) and a high of 26.8% for the fleet air reconnaissance squadrons (VQ-2).

Table V-7

SEA-BASED PERSONNEL RESOURCE ALLOCATIONS

OWN UNIT SUPPORT (NON-SUPPLY) FUNCTIONS

SURFACE SHIP CLASS		OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
AD	14	89.1	1093.9	300.3	1483.3	24.3
AD	26	25.9	324.1	83.5	433.5	24.5
AO	37	103.9	921.8	260.0	1285.7	24.0
AE	25	8.2	106.0	90.2	204.5	17.3
AE	29	24.0	294.6	251.7	570.3	17.3
AFS	4	22.2	240.4	183.5	456.0	15.1
AGF	3	4.3	42.7	34.0	80.9	17.8
AO	99	8.3	86.0	77.2	171.5	15.4
AOE	3	16.6	200.4	193.0	410.0	16.8
AOR	2	22.4	272.4	234.6	529.5	17.0
AR	5	66.8	957.4	262.6	1286.9	24.2
ARS	41	9.2	126.6	70.2	206.0	23.8
AS	18	179.2	2328.7	638.4	3146.3	24.2
AS	31	71.7	921.9	253.8	1247.4	24.2
ASR	7	2.7	71.6	34.5	108.8	24.1
ASR	21	3.3	95.4	36.6	135.3	29.5
ATS	2	2.6	56.4	34.1	93.1	23.5
AVM	1	15.2	70.7	32.6	118.5	15.1
CG	17	36.6	370.0	187.1	593.7	14.3
CG	34	40.7	417.8	199.8	658.3	15.0
CGN	9	12.7	120.1	51.6	184.4	16.0
CGN	25	6.6	57.3	13.6	77.5	14.3
CGN	36	13.6	179.1	77.0	269.6	16.0
CGN	38	15.7	197.6	62.3	275.6	16.8
CV	41	53.0	400.5	246.9	700.5	14.0
CV	62	99.9	668.8	442.5	1211.2	13.4
CV	66	101.1	679.0	457.7	1237.9	13.3
CV	67	30.2	225.6	153.7	409.5	13.3
CVN	68	91.3	797.5	472.4	1361.2	14.5
DD	933	140.0	1203.5	664.9	2008.5	14.6
DDG	24	86.0	828.9	424.4	1339.3	14.6
DDG	33	13.6	136.5	72.1	222.2	14.6
DDG	46	43.1	432.1	209.6	684.8	14.9
FF	1038	5.4	56.4	34.5	96.2	16.0
FF	1047	33.3	308.3	203.9	545.5	16.0
FF	1072	140.5	1379.0	796.6	2316.2	15.8
FFG	4	16.3	172.7	118.4	307.4	15.5
FFG	7	5.2	73.4	22.1	100.6	17.5
LCC	20	18.9	175.4	98.8	293.1	17.6
LHA	1	74.7	261.6	184.9	521.2	14.9
LKA	117	12.7	107.2	80.6	200.5	19.0
LPD	1	13.3	74.2	56.8	144.3	17.3
LPD	6	73.8	477.1	323.6	874.6	17.7
LPH	7	66.9	409.2	271.7	747.9	15.1

Table V-7 Continued

	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
SURFACE SHIP CLASS (CONTINUED)					
LSD 29	28.3	261.5	186.6	476.4	17.3
LSD 37	18.9	178.0	106.5	303.4	17.1
LST 1193	33.6	597.4	547.6	1178.6	22.8
MSO 422	3.2	37.1	10.9	51.2	20.3
PG 92	3.0	34.7	4.8	42.5	23.0
SURFACE SHIP TOTAL	2007.5	19536.5	9854.9	31398.9	17.3
PERCENT OF SURFACE POPULATION	19.5	18.9	14.6	17.3	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	81925.3	450570.3	162517.2	695012.8	
SUBSURFACE SHIP CLASS					
SS 540	2.2	34.9	8.8	45.9	7.7
SSBN 598	4.8	32.1	10.1	47.0	7.6
SSBN 608	6.0	40.5	12.3	58.8	7.8
SSBN 616	36.9	251.1	76.3	364.3	7.8
SSN 578	2.4	35.0	10.4	47.8	7.6
SSN 585	2.2	34.5	7.1	43.8	7.4
SSN 594	6.2	98.4	27.0	131.6	7.5
SSN 637	16.7	267.1	73.3	357.2	7.5
SSN 688	5.3	88.4	26.4	120.1	7.6
SUBSURFACE SHIP TOTAL	82.6	882.1	251.7	1216.4	7.6
PERCENT OF SUBSURFACE POPULATION	5.6	7.4	10.0	7.6	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	3370.9	20343.4	4150.6	27864.9	

Table V-7 Concluded

AIR SQUADRON CLASS	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
HC	128.1	233.3	78.8	440.2	20.7
HH	35.2	45.6	21.1	101.9	25.8
HM 12	50.6	146.0	63.6	260.2	23.3
HS 1	45.3	75.8	36.7	157.7	24.2
HSL	144.0	83.8	32.8	260.6	21.7
RVAH	60.2	309.6	80.5	450.3	22.6
VAL	285.3	1041.0	445.2	1771.6	21.4
VAH	466.6	910.1	480.5	1857.2	26.9
VAQ	95.4	214.3	71.1	380.9	23.7
VAW	171.5	310.2	97.0	578.8	24.6
VF 4	427.7	813.5	478.6	1719.7	26.7
VF 14	275.8	585.6	244.3	1105.8	23.0
VFP 63	13.5	37.5	12.3	63.3	21.1
VP	994.5	998.4	484.9	2477.8	22.9
VQ 2	94.3	135.2	63.1	292.6	26.8
VRC 30	37.2	59.5	35.1	131.8	25.4
VRH	114.4	147.4	71.5	333.3	22.4
VS	344.3	451.8	226.0	1022.0	26.0
VT	191.2	41.4	56.0	288.6	50.5
VWH	159.8	204.9	95.9	460.5	22.3
VX 4	39.4	90.6	50.8	180.9	26.1
VXE 6	25.2	47.9	23.5	96.6	24.0
AIR SQUADRON TOTAL	4199.7	6983.6	3249.2	14432.5	24.2
PERCENT OF AIR SQUADRON POPULATION	45.7	21.7	17.8	24.2	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	171389.4	161062.1	53582.7	386034.2	
SEA-BASED TOTAL	6289.8	27402.2	13355.8	47047.7	18.3
PERCENT OF ENTIRE SEA-BASED POPULATION	30.1	18.6	15.1	18.3	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	256685.5	631975.8	220250.5	1108911.9	

5. Supply Functions (Table V-8)

The total number of personnel equivalents allocated to Supply functions in the sea-based Navy is approximately 33,000; which represents 12.9% of the SBP and 22.1% of the DLF. Thus, within the sea-based Navy, supply activities account for a little over one-eighth of the time spent by personnel, and almost one-fourth of their time spent in logistics activities. On a yearly billet cost basis, these percentages are slightly lower (because of more enlisted activity than officer), where the billet cost associated with supply functions is approximately 682 million dollars.

Overall, officers spend only 6.5% of their time performing supply functions as compared with petty officers, who spend 10.8% of their time performing these functions, and other enlisted personnel, who spend 17.9% of their time in supply activities. This relationship holds for the surface ship force class with the percentages being 11.6% for officers, 13.1% for petty officers, and 21.9% for other enlisted personnel. For the subsurface ship force class, officers actually spend a higher percent of their time performing supply functions (7.4%) than do petty officers (6.7%), while the other enlisted personnel still spend a larger percentage of their time performing these functions (12.5%). For aircraft squadrons, the percentages are quite low, since supply is mainly conducted by the host activity (aircraft carrier or Naval air station). These percentages are 0.7% for officers, 4.8% for petty officers, and 3.8% for other enlisted personnel.

The time spent by personnel performing supply functions differs significantly across the three force classes, being 16.3% for surface ships, 7.7% for subsurface ships, and only 3.9% for aircraft squadrons. If submarine tenders (AS) and submarine rescue ships (ASR) are included in the subsurface ship force class, then its percentage would rise to 11.1%, still remaining significantly lower than the surface ship force class.

For the surface ship force class, personnel aboard support ships spend 15.5% of their time performing supply functions. For specific ship classes, this percentage ranges from a low of 13.4% for the submarine rescue ship class (ASR-7) to a high of 30.5% for the combat stores ship class (AFS-4). Excluding the combat stores ship class, the upper bound would drop to 19.7% for the salvage and rescue ship class (ATS-2). For amphibious ships, the percent of personnel time devoted to supply functions is 20.5%, with a lower bound of 17.2% for the amphibious cargo ship class (LKA-117) and an upper bound of 23.4% for the amphibious command ship class (LCC-20). For combat ships, the average is 15.6%, with a lower bound of 9.7% for the patrol combatant class (PG-92) and an upper bound of 21.7%. for the command ship class (AGF-3).

For the subsurface ship force class, personnel aboard ballistic missile submarines spend 7.3% of their time performing supply functions. For the attack submarines, the percent of personnel time devoted to supply functions is 7.9%, with only minor variations over the different ship classes.

Within the aircraft squadron force class, personnel allocated to helicopter squadrons spend 3.5% of their time performing supply functions. For specific squadron types, this percentage ranges from a low of 0.0% for the light helicopter anti-submarine squadrons (HSL) to a high of 5.1% for the helicopter combat support squadrons (HC). The light helicopter anti-submarine squadron used in this analysis is a sea-based component which does not include any aviation storekeepers. Thus, it is assumed that the supply functions for this squadron are almost completely performed by the host aircraft carrier. Excluding this squadron type, the lower bound rises to 1.6% for the helicopter anti-submarine squadrons (HS-1). For fixed wing squadrons, the percent of personnel time devoted to supply functions is 3.9%, with a lower bound of 0.7% for the training

squadrons (VT) and an upper bound of 6.7% for the antarctic development squadron (VXE-6). Excluding the training squadrons, the lower bound rises to 1.5% for the medium attack squadrons (VAM).

For the functionally-oriented breakdown of aircraft squadrons, personnel allocated to support squadrons spend 4.5% of their time performing supply functions. For specific squadron types, the percentage ranges from a low of 0.7% for the training squadrons to a high of 6.7% for the antarctic development squadron (VXE-6). If the training squadrons are excluded, the lower bound rises to 3.1% for the carrier-based fleet tactical support squadrons (VRC-30). For combat squadrons, the percent of personnel time devoted to supply functions is 3.2%, with a low of 0.0% for the light helicopter anti-submarine squadrons (HSL) and a high of 5.5% for the reconnaissance attack squadrons (RVAH). Excluding the light helicopter anti-submarine squadrons, the lower bound rises to 1.5% for the medium attack aircraft squadrons (VAM). For reconnaissance squadrons, the average percentage is 4.8%, with a lower bound of 4.1% for the photographic reconnaissance squadrons (VFP-63) and an upper bound of 5.4% for the carrier airborne early warning squadrons (VAW).

Table V-8

SEA-BASED PERSONNEL RESOURCE ALLOCATIONS

SUPPLY FUNCTIONS

SURFACE SHIP CLASS	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
AD 14	46.2	460.0	355.0	861.2	14.1
AD 26	14.2	133.2	100.4	247.8	14.0
AD 37	55.3	380.4	301.2	736.9	13.8
AE 25	10.2	78.0	96.6	184.8	15.7
AE 29	23.8	211.2	257.6	492.6	14.9
AFS 4	59.4	442.4	415.8	917.6	30.5
AGF 3	3.3	38.2	57.2	98.7	21.7
AO 99	9.0	84.6	96.0	189.6	17.0
AOE 3	22.0	180.0	227.2	429.2	17.6
AOR 2	24.4	247.8	305.2	577.4	18.5
AR 5	36.8	386.4	301.6	724.8	13.6
ARS 41	0.0	60.8	64.0	124.8	14.4
AS 18	92.4	966.0	742.0	1800.4	13.8
AS 31	37.0	386.4	294.8	718.2	13.9
ASR 7	0.5	29.6	30.4	60.5	13.4
ASR 21	2.2	31.2	47.2	80.6	17.6
ATS 2	3.0	40.2	34.8	78.0	19.7
AVM 1	8.0	44.6	53.4	106.0	13.5
CG 17	18.0	239.4	302.4	559.8	13.5
CG 34	18.0	266.4	320.4	604.8	13.8
CGN 9	8.0	73.2	100.8	182.0	15.8
CGN 25	3.0	30.8	71.6	105.4	19.5
CGN 36	9.0	109.8	149.4	268.2	16.0
CGN 38	9.0	109.6	121.8	240.6	14.6
CV 41	24.4	385.2	508.4	918.0	18.4
CV 62	40.7	736.2	943.2	1720.1	19.0
CV 66	39.7	751.2	943.2	1734.1	18.6
CV 67	13.1	242.6	318.4	574.3	18.6
CVN 68	39.5	766.8	1012.8	1819.1	19.3
DD 933	78.0	834.6	873.6	1786.2	13.0
DDG 24	46.0	584.2	653.2	1283.4	13.9
DDG 43	8.0	101.6	113.6	223.2	14.6
DDG 46	20.0	276.0	316.0	612.0	13.3
FF 1038	2.0	35.2	33.2	70.4	11.7
FF 1047	20.0	220.0	212.0	452.0	13.2
FF 1072	94.0	1005.8	911.8	2011.6	13.7
FFG 4	12.0	128.4	156.0	296.4	15.0
FFG 7	3.0	53.4	47.4	103.8	18.0
LCC 20	10.0	190.8	188.0	388.8	23.4
LHA 1	61.6	352.6	364.0	778.4	22.2
LKA 117	8.9	83.4	88.8	181.1	17.2
LPD 1	8.0	65.6	93.2	166.8	20.0
LPD 6	47.8	393.6	559.2	1000.6	20.3
LPH 7	53.9	516.6	527.8	1098.3	22.2

Table V-8 Continued

	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
SURFACE SHIP CLASS (CONTINUED)					
LSD 29	19.9	212.8	275.2	507.9	18.5
LSD 37	10.0	146.0	168.0	324.0	18.3
LST 1193	20.0	404.0	576.0	1000.0	19.4
MSO 422	0.0	17.4	14.4	31.8	12.6
PG 92	0.0	11.0	7.0	18.0	9.7
SURFACE SHIP TOTAL	1193.2	13545.8	14751.2	29490.2	16.3
PERCENT OF SURFACE POPULATION	11.6	13.1	21.9	16.3	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	48693.7	312406.8	243262.0	604362.5	
SUBSURFACE SHIP CLASS					
SS 580	0.0	35.0	14.0	49.0	8.2
SSBN 598	4.0	32.0	8.0	44.0	7.3
SSBN 608	5.0	40.0	10.0	55.0	7.3
SSBN 616	31.0	248.0	62.0	341.0	7.3
SSN 576	5.0	30.0	15.0	50.0	7.9
SSN 585	0.0	30.0	15.0	45.0	7.6
SSN 594	14.0	84.0	42.0	140.0	7.9
SSN 637	38.0	228.0	114.0	380.0	7.9
SSN 688	12.0	72.0	36.0	120.0	7.6
SUBSURFACE SHIP TOTAL	109.0	799.0	316.0	1224.0	7.7
PERCENT OF SUBSURFACE POPULATION	7.4	6.7	12.5	7.7	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	4448.3	18427.3	5211.2	28086.8	

Table V-8 Concluded

AIR SQUADRON CLASS	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
HC	4.7	71.5	33.0	109.2	5.1
HH	4.4	10.5	4.0	18.9	4.8
HM 12	5.9	34.0	12.0	51.9	4.6
HS 1	1.2	7.0	2.0	10.2	1.6
HSL	0.0	0.0	0.0	0.0	0.0
RVAH	5.0	65.0	40.0	110.0	5.5
VAL	0.0	252.0	140.0	392.0	4.7
VAW	15.4	63.0	28.0	106.4	1.5
VAQ	3.4	48.0	24.0	75.4	4.7
VAW	0.0	84.0	42.0	126.0	5.4
VF 4	7.9	90.0	24.0	121.9	1.9
VF 14	8.6	152.0	64.0	224.6	4.7
VFP 63	2.2	5.0	5.0	12.2	4.1
VP	1.6	364.0	156.0	521.6	4.8
VQ 2	2.4	34.0	10.0	46.4	4.3
VRC 30	0.9	11.0	4.0	15.9	3.1
VRH	0.2	56.0	24.0	80.2	5.4
VS	0.0	72.0	48.0	120.0	3.1
VT	0.0	4.0	0.0	4.0	0.7
VWH	0.2	74.0	30.0	104.2	5.0
VX 4	1.0	19.0	6.0	26.0	3.8
VXE 6	1.5	18.5	7.0	27.0	6.7
AIR SQUADRON TOTAL	66.6	1534.5	703.0	2304.1	3.9
PERCENT OF AIR SQUADRON POPULATION	0.7	4.8	3.8	3.9	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	2719.2	35390.2	11593.2	49702.5	
SEA-BASED TOTAL	1368.8	15879.3	15770.2	33018.3	12.9
PERCENT OF ENTIRE SEA-BASED POPULATION	6.5	10.8	17.9	12.9	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	55861.1	366224.3	260066.4	682151.8	

C. Notional Task Force

The notional task force used in this analysis was configured in such a manner as to cover a fairly broad sampling of ships and aircraft squadrons contained in the sea-based force structure. Such a task force could be conceived to be deployed in a remote area, such as the Indian Ocean Basin, although the configuration established is purely hypothetical in nature. The task force consists of a conventional attack carrier task group, a nuclear attack carrier task group, an amphibious task group, and a service group. The components of these task groups are listed below:

- Conventional Attack Carrier Task Group (CVTG)
  - 1 fast combat support ship (AOE-3)
  - 1 attack aircraft carrier (CV-66)
  - 1 guided missile cruiser (CG-34)
  - 2 guided missile destroyers (DDG-24)
  - 1 guided missile destroyers (DDG-33)
  - 2 guided missile destroyers (DDG-46)
  - 2 attack submarines (SS-580)
  - 1 carrier air wing
    - 1 helicopter anti-submarine squadron (HS-1)
    - 4 light attack squadrons (VAL)
    - 1 tactical electronic warfare squadron (VAQ-2)
    - 2 fighter squadrons (VF-4)
    - 1 photographic reconnaissance squadron (VFP-63)
    - 1 carrier anti-submarine squadron (VS)
    - 1 heavy AEW squadron (VWH)
- Nuclear Attack Carrier Task Group (CVNTG)
  - 1 fast combat support ship (AOE-3)
  - 1 nuclear attack aircraft carrier (CVN-68)
  - 1 nuclear guided missile cruiser (CGN-25)
  - 1 nuclear guided missile cruiser (CGN-36)
  - 2 nuclear guided missile cruisers (CGN-38)
  - 1 nuclear attack submarine (SSN-594)

2 nuclear attack submarines (SSN-637)

1 nuclear attack submarine (SSN-688)

1 carrier air wing

- 1 helicopter anti-submarine squadron (HS-1)
- 4 medium attack squadrons (VAM)
- 1 tactical electronic warfare squadron (VAQ-2)
- 2 fighter squadrons (VF-14)
- 1 fleet air reconnaissance squadron (VQ-2)
- 1 carrier anti-submarine squadron (VS)
- 1 heavy AEW squadron (VWH)

- Amphibious Task Group (ATG)

1 amphibious assault ship (LHA-1)

1 amphibious cargo ship (LKA-117)

2 dock landing ships (LSD-29)

2 tank landing ships (LST-1193)

5 destroyers (DD-933)

- Service Group (SG)

1 destroyer tender (AD-37)

2 ammunition ships (AE-29)

3 combat stores ships (AFS-4)

2 oilers (AO-99)

1 replenishment oiler (AOR-2)

1 repair ship (AR-5)

1 submarine tender (AS-18)

The combined task force structure is presented in Table V-9.

The summary results of the analysis are presented in Table V-10. A complete set of output tables generated by the PALLOC computer program are presented at the end of this section as Tables V-11 to V-15.

The task force population consists of 33,882 personnel, with 8.1% being officers, 56.0% petty officers, and 35.9% other

Table V-9

TASK FORCE STRUCTURE DATA BASE

Ship Class or Squadron Type	Number in Force
Surface Ships	
AD 37	1
AE 29	1
AFS 4	3
AO 99	2
AOE 3	2
AOR 2	1
AR 5	1
AS 18	1
CG 34	1
CGN 25	1
CGN 36	1
CGN 38	2
CV 66	1
CVN 68	1
DD 933	5
DDG 24	2
DDG 33	1
DDG 46	2
LHA 1	1
Surface Ships (Continued)	
LKA 117	1
LSD 29	2
LST 1193	2
Subsurface Ships	
SS 580	2
SSN 594	1
SSN 637	2
SSN 688	1
Aircraft Squadrons	
HS 1	2
VAL	4
VAM	4
VAQ	2
VF 4	2
VF 14	2
VFP 63	1
VQ 2	1
VS	2
VWH	2

Table V-10

TASK FORCE SUMMARY ALLOCATIONS

	Task Force Population (TFP)	Designated Logistics Functions (Pers. Equivs.)	Maintenance Functions (Pers. Equivs.)	Own-Unit Support Functions (Pers. Equivs.)	Supply Functions (Pers. Equivs.)
CVTG					
Officers	925	507.0	140.7	331.4	34.9
Petty Officers	5923	3500.5	1873.7	1052.3	574.9
Other Enlisted	4069	2331.9	1148.5	572.3	611.2
Total	10917	6339.3	3162.7	1955.3	1221.5
% of Component's TFP	--	58.1	29.0	17.9	11.2
CVNTG					
Officers	1104	611.0	152.3	416.1	42.6
Petty Officers	6472	3824.4	2053.7	1198.8	571.7
Other Enlisted	3887	2329.5	1088.3	588.1	653.0
Total	11463	6764.5	3294.6	2202.6	1267.3
% of Component's TFP	--	59.0	28.7	19.2	11.1
ATG					
Officers	291	153.6	67.0	51.4	35.4
Petty Officers	2216	1204.6	507.5	380.6	316.6
Other Enlisted	1689	1021.7	403.0	259.8	359.0
Total	4196	2380.0	977.5	691.6	711.0
% of Component's TFP	--	56.7	23.3	16.5	16.9
SG					
Officers	430	270.2	104.8	90.4	74.8
Petty Officers	4379	2860.5	1213.8	1019.0	627.8
Other Enlisted	2497	1655.9	676.7	411.3	568.0
Total	7306	4786.5	1995.3	1520.7	1270.6
% of Component's TFP	--	65.5	27.3	20.8	17.4
Task Force					
Officers	2750	1541.4	464.4	889.0	188.0
Petty Officers	18990	11389.9	5648.7	3650.3	2091.0
Other Enlisted	12142	7338.7	3316.6	1830.9	2191.2
Total	33882	20270.1	9429.7	6370.2	4470.2
% of TFP	--	59.8	27.8	18.8	13.2

enlisted personnel. Personnel within the task force spend approximately 59.8% of their time performing logistics functions, being broken down to 27.8% for maintenance, 18.8% for own-unit support, and 13.2% for supply. These percentages virtually parallel those for the entire sea-based Navy, being only a shade higher in each case.

The Conventional Attack Carrier Task Group (CVTG) consists of 10,917 personnel, with 8.5% being officers, 54.3% petty officers, and 37.3% other enlisted personnel. Personnel within this task group spend about 58.1% of their time performing logistics functions, being broken down to 29.0% for maintenance, 17.9% for own-unit support, and 11.2% for supply. The percent of time devoted to logistics functions is the same as for the entire sea-based Navy, while time devoted to maintenance is a couple of percentage points higher with this being offset by less time devoted to own-unit support and supply.

The Nuclear Attack Carrier Task Group (CVNTG) consists of 11,463 personnel, of which 9.6% are officers, 56.5% are petty officers, and 33.9% are other enlisted personnel. Thus, this task group has higher proportionate complements of officers and petty officers and a lower proportionate complement of other enlisted personnel than does the CVTG. Personnel in the CVNTG spend approximately 59.0% of their time performing logistics functions, with 29.0% of their time devoted to maintenance, 17.9% of their time devoted to own-unit support, and 11.1% of their time devoted to supply. These percentages quite closely parallel those of the CVTG.

The Amphibious Task Group (ATG), excluding the Marine Corps complement, consists of 4,196 personnel, with 6.9% being officers, 52.8% being petty officers, and 40.3% being other enlisted personnel. Thus, this task group has lower proportionate complements of officers and petty officers and a higher proportionate complement of other enlisted personnel than do either of the two carrier task groups. The personnel in the ATG

devote 56.7% of their time performing logistics functions, being broken down to 23.3% for maintenance, 16.5% for own-unit support, and 16.9% for supply. Thus, a lower percentage of time in this task group is devoted to maintenance and own-unit support than is the case for the carrier task groups, while more percent of time is spent performing supply functions in the ATG.

The Service Group (SG) consists of 7,306 personnel, of which 5.9% are officers, 59.9% are petty officers, and 34.2% are other enlisted personnel. Thus, this task group has the lowest proportionate complement of officers and the highest proportionate complement of petty officers among the four task groups included in the notional task force. The personnel in the SG devote approximately 65.5% of their time performing logistics functions, being broken down to 27.3% for maintenance, 20.8% for own-unit support, and 17.4% for supply. As would be expected, this task group devotes a higher percentage of personnel to logistics functions than do either of the other three task groups. Proportionate time devoted to maintenance functions is a little less than for the carrier task groups, while proportionate times devoted to both own-unit support functions and supply functions are the highest for this task group among the four task groups in the notional task force.

Table V-11

TASK FORCE POPULATION

SURFACE SHIP CLASS		OFFICERS	PETTY OFFICERS	OTHER ENLISTED	TOTALS
AD	14	0	0	0	0
AD	26	0	0	0	0
AD	37	141	1207	437	1785
AE	25	0	0	0	0
AE	29	17	184	211	412
AFS	4	72	636	582	1290
AGF	3	0	0	0	0
AO	99	40	316	386	742
AOE	3	46	550	622	1218
AOR	2	19	201	226	446
AR	5	68	930	332	1330
ARS	41	0	0	0	0
AS	18	73	905	323	1301
AS	31	0	0	0	0
ASR	7	0	0	0	0
ASR	21	0	0	0	0
AFS	2	0	0	0	0
AVM	1	0	0	0	0
CG	17	0	0	0	0
CG	34	27	291	170	488
CGN	9	0	0	0	0
CGN	25	31	367	142	540
CGN	36	29	370	161	560
CGN	38	58	754	284	1096
CV	41	0	0	0	0
CV	62	0	0	0	0
CV	66	155	1530	1421	3106
CV	67	0	0	0	0
CVN	68	150	1654	1336	3140
DD	933	105	1035	625	1765
DDG	24	44	488	268	800
DDG	33	20	233	128	381
DDG	46	52	554	316	922
FF	1038	0	0	0	0
FF	1047	0	0	0	0
FF	1072	0	0	0	0
FFG	4	0	0	0	0
FFG	7	0	0	0	0
LCC	20	0	0	0	0
LHA	1	97	415	363	875
LHA	117	29	170	157	352
LPD	1	0	0	0	0
LPD	4	0	0	0	0
LPH	7	0	0	0	0

Table V-11 Continued

	OFFICERS	PETTY OFFICERS	OTHER ENLISTED	TOTALS
SURFACE SHIP CLASS (CONTINUED)				
LSD 29	40	344	304	688
LSD 37	0	0	0	0
LST 1193	24	252	240	516
MSO 422	0	0	0	0
PG 92	0	0	0	0
SURFACE SHIP TOTAL	1333	13386	9034	23753
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	54399.7	308721.3	148979.7	512100.7
SUBSURFACE SHIP CLASS				
SS 580	16	120	34	170
SSBN 598	0	0	0	0
SSBN 608	0	0	0	0
SSBN 616	0	0	0	0
SSN 578	0	0	0	0
SSN 585	0	0	0	0
SSN 594	12	94	20	126
SSN 637	24	188	40	252
SSN 688	12	97	23	132
SUBSURFACE SHIP TOTAL	64	499	117	680
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	2611.8	11508.4	1929.4	16049.7

Table V-11 Concluded

AIR SQUADRON CLASS		OFFICERS	PETTY OFFICERS	OTHER ENLISTED	TOTALS
HC		0	0	0	0
HH		0	0	0	0
HM	12	0	0	0	0
HS	1	96	354	202	652
HSL		0	0	0	0
HVAH		0	0	0	0
VAL		96	672	412	1180
VAH		280	1004	692	1976
VAQ		54	230	118	402
VAW		0	0	0	0
VF	4	150	564	360	1074
VF	14	80	332	188	600
VFP	63	35	155	110	300
VP		0	0	0	0
VQ	2	98	296	151	545
VRC	30	0	0	0	0
VRH		0	0	0	0
VS		126	338	190	654
VT		0	0	0	0
VXH		338	1160	568	2066
VX	4	0	0	0	0
VXE	6	0	0	0	0
AIR SQUADRON TOTAL		1353	5105	2991	9449
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		55215.9	117736.6	49324.6	222277.1
TASK FORCE TOTAL		2750	18990	12142	33882
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		112227.5	437966.4	200233.7	750427.6

Table V-12

TASK FORCE PERSONNEL RESOURCE ALLOCATIONS

DESIGNATED LOGISTIC FUNCTIONS

SURFACE SHIP CLASS	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
AD 14	0.0	0.0	0.0	0.0	0.0
AD 26	0.0	0.0	0.0	0.0	0.0
AD 37	91.2	814.4	307.6	1213.1	68.0
AE 25	0.0	0.0	0.0	0.0	0.0
AE 29	9.5	104.1	127.8	241.4	58.6
AFS 4	47.2	408.2	393.8	849.2	65.8
AGF 3	0.0	0.0	0.0	0.0	0.0
AO 99	20.4	176.3	225.6	422.3	56.9
AOE 3	27.8	306.7	389.5	724.0	59.4
AOR 2	10.7	116.9	141.0	268.7	60.2
AH 5	44.6	627.8	233.0	905.4	68.1
ARS 41	0.0	0.0	0.0	0.0	0.0
AS 18	46.6	612.8	227.1	886.5	68.1
AS 31	0.0	0.0	0.0	0.0	0.0
ASR 7	0.0	0.0	0.0	0.0	0.0
ASR 21	0.0	0.0	0.0	0.0	0.0
ATS 2	0.0	0.0	0.0	0.0	0.0
AVM 1	0.0	0.0	0.0	0.0	0.0
CG 17	0.0	0.0	0.0	0.0	0.0
CG 34	12.8	137.8	96.2	246.9	50.6
CGN 9	0.0	0.0	0.0	0.0	0.0
CGN 25	17.6	165.1	99.8	282.5	52.3
CGN 36	14..	175.3	102.6	292.1	52.2
CGN 38	29.5	381.7	179.3	590.4	53.9
CV 41	0.0	0.0	0.0	0.0	0.0
CV 62	0.0	0.0	0.0	0.0	0.0
CV 66	78.2	872.3	726.5	1677.0	54.0
CV 67	0.0	0.0	0.0	0.0	0.0
CVN 68	74.1	965.0	720.1	1759.2	56.0
DD 933	53.1	504.7	352.6	910.5	51.6
DDG 24	22.1	229.7	152.8	404.6	50.6
DDG 33	10.4	109.8	74.5	194.8	51.1
DDG 46	25.1	260.1	175.9	461.1	50.0
FF 1038	0.0	0.0	0.0	0.0	0.0
FF 1047	0.0	0.0	0.0	0.0	0.0
FF 1072	0.0	0.0	0.0	0.0	0.0
FFG 4	0.0	0.0	0.0	0.0	0.0
FFG 7	0.0	0.0	0.0	0.0	0.0
LCC 20	0.0	0.0	0.0	0.0	0.0
LHA 1	54.5	246.0	205.2	505.6	57.8
LKA 113	13.0	99.9	99.3	212.2	60.3
LPD 1	0.0	0.0	0.0	0.0	0.0
LPD 6	0.0	0.0	0.0	0.0	0.0
LPH 7	0.0	0.0	0.0	0.0	0.0

Table V-12 Continued

	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
SURFACE SHIP CLASS (CONTINUED)					
LSD 29	21.6	194.2	192.0	407.8	59.3
LSD 37	0.0	0.0	0.0	0.0	0.0
LST 1193	11.4	159.8	172.6	343.9	66.6
MSO 422	0.0	0.0	0.0	0.0	0.0
PG 92	0.0	0.0	0.0	0.0	0.0
SURFACE SHIP TOTAL	735.5	7668.7	5394.9	13799.1	58.1
PERCENT OF SURFACE POPULATION	55.2	57.3	59.7	58.1	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	30014.5	176863.7	88967.8	295846.1	
SUBSURFACE SHIP CLASS					
SS 540	3.8	44.2	10.9	59.0	34.7
SSBN 598	0.0	0.0	0.0	0.0	0.0
SSBN 608	0.0	0.0	0.0	0.0	0.0
SSBN 616	0.0	0.0	0.0	0.0	0.0
SSN 578	0.0	0.0	0.0	0.0	0.0
SSN 585	0.0	0.0	0.0	0.0	0.0
SSN 594	3.6	32.3	7.2	43.2	34.3
SSN 637	7.3	64.7	14.4	86.3	34.3
SSN 688	3.6	33.3	8.2	45.1	34.2
SUBSURFACE SHIP TOTAL	18.4	174.5	40.7	233.6	34.4
PERCENT OF SUBSURFACE POPULATION	28.8	35.0	34.8	34.4	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	750.9	4025.4	670.5	5446.8	

Table V-12 Concluded

AIR SQUADRON CLASS		OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
HC		0.0	0.0	0.0	0.0	0.0
HH		0.0	0.0	0.0	0.0	0.0
HM	12	0.0	0.0	0.0	0.0	0.0
HS	1	56.0	188.6	122.8	367.5	56.4
HSL		0.0	0.0	0.0	0.0	0.0
RVAH		0.0	0.0	0.0	0.0	0.0
VAL		56.4	493.1	254.0	803.5	68.1
VAM		166.9	699.5	451.2	1317.6	66.7
VAQ		30.7	182.3	75.4	288.4	71.8
VAW		0.0	0.0	0.0	0.0	0.0
VF	4	89.4	395.9	243.9	729.2	67.9
VF	14	45.3	242.5	116.5	404.3	67.4
VFP	63	18.5	119.5	71.5	209.4	69.8
VP		0.0	0.0	0.0	0.0	0.0
VQ	2	58.6	226.9	104.5	390.0	71.6
VRC	30	0.0	0.0	0.0	0.0	0.0
VRM		0.0	0.0	0.0	0.0	0.0
VS		70.5	256.4	127.2	454.0	69.4
VT		0.0	0.0	0.0	0.0	0.0
VAH		195.3	741.9	336.3	1273.5	61.6
VX	4	0.0	0.0	0.0	0.0	0.0
VXE	6	0.0	0.0	0.0	0.0	0.0
AIR SQUADRON TOTAL		787.6	3546.7	1903.2	6237.4	66.0
PERCENT OF AIR SQUADRON POPULATION		58.2	69.5	63.6	66.0	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		32140.7	81797.1	31384.8	145322.7	
TASK FORCE TOTAL		1541.4	11389.9	7338.7	20270.1	59.8
PERCENT OF ENTIRE TASK FORCE POPULATION		56.1	60.0	60.4	59.8	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		62906.2	262686.3	121023.2	446615.6	

Table V-13

TASK FORCE PERSONNEL RESOURCE ALLOCATIONS

MAINTENANCE FUNCTIONS

SURFACE SHIP CLASS		OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
AD	14	0.0	0.0	0.0	0.0	0.0
AD	26	0.0	0.0	0.0	0.0	0.0
AD	37	38.1	380.3	120.5	538.9	30.2
AE	25	0.0	0.0	0.0	0.0	0.0
AE	29	3.5	40.8	64.2	108.5	26.3
AFS	4	12.2	112.2	137.0	261.4	20.3
AGF	3	0.0	0.0	0.0	0.0	0.0
AO	99	8.9	62.6	110.1	181.6	24.5
AOE	3	8.5	116.5	179.4	304.4	25.0
AOR	2	4.0	42.6	63.9	110.5	24.4
AR	5	18.7	291.9	91.9	402.5	30.3
ARS	41	0.0	0.0	0.0	0.0	0.0
AS	18	19.4	283.4	89.1	391.9	30.1
AS	31	0.0	0.0	0.0	0.0	0.0
ASR	7	0.0	0.0	0.0	0.0	0.0
ASR	21	0.0	0.0	0.0	0.0	0.0
AST	2	0.0	0.0	0.0	0.0	0.0
AVM	1	0.0	0.0	0.0	0.0	0.0
CG	17	0.0	0.0	0.0	0.0	0.0
CG	34	6.3	61.8	38.4	106.6	21.8
CGN	9	0.0	0.0	0.0	0.0	0.0
CGN	25	8.0	77.0	14.6	99.6	18.5
CGN	36	6.6	79.0	27.1	112.8	20.1
CGN	38	13.0	176.7	56.5	246.3	22.5
CV	41	0.0	0.0	0.0	0.0	0.0
CV	62	0.0	0.0	0.0	0.0	0.0
CV	66	31.3	395.6	259.5	686.3	22.1
CV	67	0.0	0.0	0.0	0.0	0.0
CVN	68	30.4	443.6	225.0	699.0	22.3
DD	933	25.2	243.4	155.4	424.0	24.0
DDG	24	10.6	106.8	59.1	176.6	22.1
DDG	33	5.0	50.3	28.1	83.4	21.9
DDG	46	12.5	118.4	70.8	201.7	21.9
FF	1038	0.0	0.0	0.0	0.0	0.0
FF	1047	0.0	0.0	0.0	0.0	0.0
FF	1072	0.0	0.0	0.0	0.0	0.0
FFG	4	0.0	0.0	0.0	0.0	0.0
FFG	7	0.0	0.0	0.0	0.0	0.0
LCC	20	0.0	0.0	0.0	0.0	0.0
LHA	1	20.4	92.4	68.0	180.8	20.7
LHA	117	5.8	36.4	42.8	85.0	24.1
LPD	1	0.0	0.0	0.0	0.0	0.0
LPD	6	0.0	0.0	0.0	0.0	0.0
LPH	7	0.0	0.0	0.0	0.0	0.0

Table V-13 Continued

	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
SURFACE SHIP CLASS (CONTINUED)					
LSD 29	9.5	75.6	76.6	161.7	23.5
LSD 37	0.0	0.0	0.0	0.0	0.0
LST 1193	6.1	59.7	60.2	126.0	24.4
MSO 422	0.0	0.0	0.0	0.0	0.0
PG 92	0.0	0.0	0.0	0.0	0.0
SURFACE SHIP TOTAL	304.1	3347.0	2038.4	5689.5	24.0
PERCENT OF SURFACE POPULATION	22.8	25.0	22.6	24.0	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	12411.1	77192.3	33614.8	123218.2	
SUBSURFACE SHIP CLASS					
SS 580	3.2	24.3	4.4	31.9	18.8
SSBN 598	0.0	0.0	0.0	0.0	0.0
SSBN 608	0.0	0.0	0.0	0.0	0.0
SSBN 616	0.0	0.0	0.0	0.0	0.0
SSN 578	0.0	0.0	0.0	0.0	0.0
SSN 585	0.0	0.0	0.0	0.0	0.0
SSN 594	2.2	19.3	2.3	23.8	18.9
SSN 637	4.4	38.6	4.5	47.5	18.9
SSN 688	2.2	19.9	3.0	25.1	19.0
SUBSURFACE SHIP TOTAL	12.0	102.1	14.2	128.3	18.9
PERCENT OF SUBSURFACE POPULATION	18.8	20.5	12.1	18.9	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	489.7	2355.2	233.7	3078.6	

Table V-13 Concluded

AIR SQUADRON CLASS		OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
HC		0.0	0.0	0.0	0.0	0.0
HH		0.0	0.0	0.0	0.0	0.0
H4	12	0.0	0.0	0.0	0.0	0.0
HS	1	9.5	105.9	84.1	199.5	30.6
HSL		0.0	0.0	0.0	0.0	0.0
RVAH		0.0	0.0	0.0	0.0	0.0
VAL		15.7	308.4	170.4	494.4	41.9
VAM		29.2	421.5	305.9	756.5	38.3
VAQ		6.0	116.7	51.6	174.4	43.4
VAW		0.0	0.0	0.0	0.0	0.0
VF	4	16.8	245.3	160.1	422.3	39.3
VF	14	9.7	150.3	78.0	238.0	39.7
VFP	63	2.9	77.0	54.2	134.0	44.7
VP		0.0	0.0	0.0	0.0	0.0
VQ	2	10.2	142.3	67.9	220.5	40.4
VRC	30	0.0	0.0	0.0	0.0	0.0
VRH		0.0	0.0	0.0	0.0	0.0
VS		13.1	109.1	81.5	203.7	40.3
VT		0.0	0.0	0.0	0.0	0.0
VAH		35.3	463.0	210.4	708.7	34.3
VX	4	0.0	0.0	0.0	0.0	0.0
VAK	6	0.0	0.0	0.0	0.0	0.0
AIR SQUADRON TOTAL		148.3	2199.5	1264.1	3611.9	38.2
PERCENT OF AIR SQUADRON POPULATION		11.0	43.1	42.3	38.2	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		6052.1	50727.8	20845.8	77625.7	
TASK FORCE TOTAL		464.4	5648.7	3316.6	9429.7	27.8
PERCENT OF ENTIRE TASK FORCE POPULATION		16.9	29.7	27.3	27.8	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		18953.0	130275.3	54694.2	203922.5	

Table V-14

TASK FORCE PERSONNEL RESOURCE ALLOCATIONS

OWN UNIT SUPPORT (NON-SUPPLY) FUNCTIONS

SURFACE SHIP CLASS		OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
AD	14	0.0	0.0	0.0	0.0	0.0
AD	26	0.0	0.0	0.0	0.0	0.0
AD	37	34.6	307.3	86.7	428.6	24.0
AE	25	0.0	0.0	0.0	0.0	0.0
AE	29	3.0	36.8	31.5	71.3	17.3
AFS	4	9.5	106.4	78.6	194.6	15.1
AGF	3	0.0	0.0	0.0	0.0	0.0
AO	99	5.5	57.3	51.5	114.3	15.4
AOE	3	8.3	100.2	96.5	205.0	16.8
AOR	2	3.2	38.9	33.5	75.6	17.0
AR	5	16.7	239.4	65.7	321.7	24.2
ARS	11	0.0	0.0	0.0	0.0	0.0
AS	16	17.9	232.9	63.8	314.6	24.2
AS	31	0.0	0.0	0.0	0.0	0.0
ASR	7	0.0	0.0	0.0	0.0	0.0
ASR	21	0.0	0.0	0.0	0.0	0.0
ATS	2	0.0	0.0	0.0	0.0	0.0
AVM	1	0.0	0.0	0.0	0.0	0.0
CG	17	0.0	0.0	0.0	0.0	0.0
CG	34	4.5	46.4	22.2	73.1	15.0
CGN	9	0.0	0.0	0.0	0.0	0.0
CGN	25	6.6	57.3	13.6	77.5	14.3
CGN	36	4.5	59.7	25.7	89.9	16.1
CGN	38	10.4	131.7	41.5	183.7	16.8
CV	41	0.0	0.0	0.0	0.0	0.0
CV	62	0.0	0.0	0.0	0.0	0.0
CV	66	33.7	226.4	152.6	412.6	13.3
CV	67	0.0	0.0	0.0	0.0	0.0
CVN	68	30.4	265.8	157.5	453.7	14.5
DD	963	18.0	154.3	85.3	257.5	14.6
DDG	24	7.5	72.1	36.9	116.5	14.6
DDG	33	3.4	34.1	18.0	55.5	14.6
DDG	51	8.6	86.4	41.9	137.0	14.9
FF	1052	0.0	0.0	0.0	0.0	0.0
FF	1037	0.0	0.0	0.0	0.0	0.0
FF	1072	0.0	0.0	0.0	0.0	0.0
FFG	4	0.0	0.0	0.0	0.0	0.0
FFG	7	0.0	0.0	0.0	0.0	0.0
LCC	20	0.0	0.0	0.0	0.0	0.0
LHA	1	14.7	65.4	48.2	130.3	14.9
LHA	117	4.2	35.8	26.9	66.8	19.0
MCS	1	0.0	0.0	0.0	0.0	0.0
MCS	2	0.0	0.0	0.0	0.0	0.0
MCS	7	0.0	0.0	0.0	0.0	0.0

Table V-14 Continued

	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
SURFACE SHIP CLASS (CONTINUED)					
LSD 29	7.1	65.4	46.6	119.1	17.3
LSD 37	0.0	0.0	0.0	0.0	0.0
LST 1193	3.4	59.7	54.8	117.9	22.8
MSO 442	0.0	0.0	0.0	0.0	0.0
PG 92	0.0	0.0	0.0	0.0	0.0
SURFACE SHIP TOTAL	259.8	2479.7	1277.4	4016.9	16.9
PERCENT OF SURFACE POPULATION	19.5	18.5	14.1	16.9	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	10602.4	57189.3	21064.9	88856.7	
SUBSURFACE SHIP CLASS					
SS 580	0.6	10.0	2.5	13.1	7.7
SSBN 598	0.0	0.0	0.0	0.0	0.0
SSBN 608	0.0	0.0	0.0	0.0	0.0
SSBN 616	0.0	0.0	0.0	0.0	0.0
SSN 578	0.0	0.0	0.0	0.0	0.0
SSN 585	0.0	0.0	0.0	0.0	0.0
SSN 594	0.4	7.0	1.9	9.4	7.5
SSN 637	0.9	14.1	3.9	18.8	7.5
SSN 688	0.4	7.4	2.2	10.0	7.6
SUBSURFACE SHIP TOTAL	2.4	38.4	10.5	51.3	7.5
PERCENT OF SUBSURFACE POPULATION	3.8	7.7	9.0	7.5	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	97.9	886.1	173.0	1157.0	

Table V-14 Concluded

AIR SQUADRON CLASS		OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
HC		0.0	0.0	0.0	0.0	0.0
HM		0.0	0.0	0.0	0.0	0.0
HS	12	0.0	0.0	0.0	0.0	0.0
HSL	1	45.3	75.8	36.7	157.7	24.2
RVAH		0.0	0.0	0.0	0.0	0.0
VAL		0.0	0.0	0.0	0.0	0.0
VAW		40.8	148.7	63.6	253.1	21.4
VAW		133.3	260.0	137.3	530.6	26.9
VAW		23.9	53.6	17.8	95.2	23.7
VAW		0.0	0.0	0.0	0.0	0.0
VF	4	71.3	135.6	79.8	286.6	26.7
VF	14	34.5	73.2	30.5	138.2	23.0
VFP	63	13.5	37.5	12.3	63.3	21.1
VP		0.0	0.0	0.0	0.0	0.0
VQ	2	47.2	67.6	31.5	146.3	26.8
VRC	30	0.0	0.0	0.0	0.0	0.0
VRM		0.0	0.0	0.0	0.0	0.0
VS		57.4	75.3	37.7	170.3	26.0
VT		0.0	0.0	0.0	0.0	0.0
VAW		159.8	204.9	95.9	460.5	22.3
VA	4	0.0	0.0	0.0	0.0	0.0
VAE	6	0.0	0.0	0.0	0.0	0.0
AIR SQUADRON TOTAL		626.8	1132.2	543.1	2302.0	24.4
PERCENT OF AIR SQUADRON POPULATION		46.3	22.2	18.2	24.4	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		25578.9	26110.8	8955.9	60645.6	
TASK FORCE TOTAL		849.0	3650.3	1830.9	6370.2	18.8
PERCENT OF ENTIRE TASK FORCE POPULATION		32.3	19.2	15.1	18.8	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		34279.3	64146.2	30193.9	150659.3	

Table V-15

TASK FORCE PERSONNEL RESOURCE ALLOCATIONS

SUPPLY FUNCTIONS

SURFACE SHIP CLASS	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
AD 14	0.0	0.0	0.0	0.0	0.0
AD 26	0.0	0.0	0.0	0.0	0.0
AD 37	18.4	126.8	100.4	245.6	13.8
AE 25	0.0	0.0	0.0	0.0	0.0
AE 29	3.0	26.4	32.2	61.6	14.9
AFS 4	25.5	189.6	178.2	393.3	30.5
AGF 3	0.0	0.0	0.0	0.0	0.0
AO 99	6.0	56.4	64.0	126.4	17.0
AOE 3	11.0	90.0	113.6	214.6	17.6
AOR 2	3.5	35.4	43.6	82.5	18.5
AR 5	9.2	96.6	75.4	181.2	13.6
ARS 41	0.0	0.0	0.0	0.0	0.0
AS 18	9.2	96.6	74.2	180.0	13.8
AS 31	0.0	0.0	0.0	0.0	0.0
ASR 7	0.0	0.0	0.0	0.0	0.0
ASR 21	0.0	0.0	0.0	0.0	0.0
ATS 2	0.0	0.0	0.0	0.0	0.0
AVM 1	0.0	0.0	0.0	0.0	0.0
CG 17	0.0	0.0	0.0	0.0	0.0
CG 34	2.0	29.6	35.6	67.2	13.8
CGN 9	0.0	0.0	0.0	0.0	0.0
CGN 25	3.0	30.8	71.6	105.4	19.5
CGN 36	3.0	36.6	49.8	89.4	16.0
CGN 38	6.0	73.2	81.2	160.4	14.6
CV 41	0.0	0.0	0.0	0.0	0.0
CV 62	0.0	0.0	0.0	0.0	0.0
CV 66	13.2	250.4	314.4	578.0	18.6
CV 67	0.0	0.0	0.0	0.0	0.0
CVN 68	13.2	255.6	337.6	606.4	19.3
DD 933	10.0	107.0	112.0	229.0	13.0
DDG 24	4.0	50.8	56.8	111.6	14.0
DDG 33	2.0	25.4	28.4	55.8	14.6
DDG 46	4.0	55.2	63.2	122.4	13.3
FF 1038	0.0	0.0	0.0	0.0	0.0
FF 1047	0.0	0.0	0.0	0.0	0.0
FF 1072	0.0	0.0	0.0	0.0	0.0
FFG 4	0.0	0.0	0.0	0.0	0.0
FFG 7	0.0	0.0	0.0	0.0	0.0
LCC 20	0.0	0.0	0.0	0.0	0.0
LHA 1	15.4	88.2	91.0	194.6	22.2
LKA 117	3.0	27.8	29.6	60.4	17.2
LPD 1	0.0	0.0	0.0	0.0	0.0
LPD 6	0.0	0.0	0.0	0.0	0.0
LPH 7	0.0	0.0	0.0	0.0	0.0

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LOGISTICS VOLUME I.. (U) SRI INTERNATIONAL MENLO PARK CA
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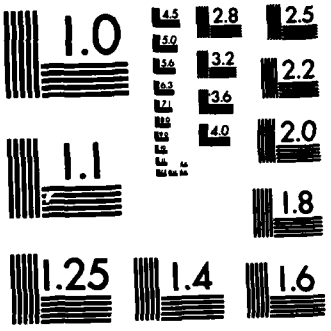

Table V-15 Continued

	OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
SURFACE SHIP CLASS (CONTINUED)					
LSD 29	5.0	53.2	68.8	127.0	18.5
LSD 37	0.0	0.0	0.0	0.0	0.0
LST 1193	2.0	40.4	57.6	100.0	19.4
MSO 422	0.0	0.0	0.0	0.0	0.0
PG 92	0.0	0.0	0.0	0.0	0.0
SURFACE SHIP TOTAL	171.5	1842.0	2079.2	4092.8	17.2
PERCENT OF SURFACE POPULATION	12.9	13.8	23.0	17.2	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	7001.0	42482.0	34288.1	83771.1	
SUBSURFACE SHIP CLASS					
SS 580	0.0	10.0	4.0	14.0	8.2
SSBN 598	0.0	0.0	0.0	0.0	0.0
SSBN 608	0.0	0.0	0.0	0.0	0.0
SSBN 616	0.0	0.0	0.0	0.0	0.0
SSN 578	0.0	0.0	0.0	0.0	0.0
SSN 585	0.0	0.0	0.0	0.0	0.0
SSN 594	1.0	6.0	3.0	10.0	7.9
SSN 637	2.0	12.0	6.0	20.0	7.9
SSN 688	1.0	6.0	3.0	10.0	7.6
SUBSURFACE SHIP TOTAL	4.0	34.0	16.0	54.0	7.9
PERCENT OF SUBSURFACE POPULATION	6.3	6.8	13.7	7.9	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)	163.2	784.1	263.9	1211.2	

Table V-15 Concluded

AIR SQUADRON CLASS		OFFICER EQUIVALENTS	PETTY OFFICER EQUIVALENTS	OTHER ENLISTED EQUIVALENTS	TOTAL EQUIVALENTS	PERCENT OF CLASS
HC		0.0	0.0	0.0	0.0	0.0
HH		0.0	0.0	0.0	0.0	0.0
HM	12	0.0	0.0	0.0	0.0	0.0
HS	1	1.2	7.0	2.0	10.2	1.6
HSL		0.0	0.0	0.0	0.0	0.0
RVAH		0.0	0.0	0.0	0.0	0.0
VAL		0.0	36.0	20.0	56.0	4.7
VAH		4.4	18.0	8.0	30.4	1.8
VAQ		0.9	12.0	6.0	18.9	4.7
VAW		0.0	0.0	0.0	0.0	0.0
VF	4	1.3	15.0	4.0	20.3	1.9
VF	14	1.1	19.0	8.0	28.1	4.7
VFP	63	2.2	5.0	5.0	12.2	4.1
VP		0.0	0.0	0.0	0.0	0.0
VQ	2	1.2	17.0	5.0	23.2	4.3
VRC	30	0.0	0.0	0.0	0.0	0.0
VRH		0.0	0.0	0.0	0.0	0.0
VS		0.0	12.0	8.0	20.0	3.1
VT		0.0	0.0	0.0	0.0	0.0
VWH		0.2	74.0	30.0	104.2	5.0
VX	4	0.0	0.0	0.0	0.0	0.0
VXE	6	0.0	0.0	0.0	0.0	0.0
AIR SQUADRON TOTAL		12.5	215.0	96.0	323.5	3.4
PERCENT OF AIR SQUADRON POPULATION		0.9	4.2	3.2	3.4	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		509.7	4958.5	1583.1	7051.4	
TASK FORCE TOTAL		188.0	2091.0	2191.2	4470.2	13.2
PERCENT OF ENTIRE TASK FORCE POPULATION		6.8	11.0	18.0	13.2	
BILLET COST/YEAR (THOUSANDS OF DOLLARS)		7673.9	48224.7	36135.1	92033.7	

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